



CENTRAL PIEDMONT
COMMUNITY COLLEGE

CATALOG 1982-1984

POST OFFICE BOX 35009
CHARLOTTE, NORTH CAROLINA 28235
TELEPHONE: 704/373-6633

INFORMATION

CAREER
PROGRAMS

TRANSFER
PROGRAMS

COLLEGE
IMPROVEMENT

CONTINUING
EDUCATION

COURSE
DESCRIPTIONS

FACULTY,
STAFF

FRONT COVER:

Flags forming the Avenue of Nations at CPCC celebrate the diversity of the student body which includes natives of 98 foreign countries.

BACK COVER:

With Charlotte's burgeoning skyline as a backdrop, the CPCC campus is a short distance from uptown Charlotte.

The employment and admission practices of Central Piedmont Community College do not discriminate on the basis of race, color, sex, age, religion, physical handicap, or national origin.

Catalog 1982-84

Central Piedmont Community College

Post Office Box 35009
Charlotte, North Carolina 28235

Delivery Address:
Elizabeth Avenue At Old Kings Drive
Charlotte, North Carolina

Mondays-Thursdays: 7:30 a.m.—10:30 p.m.
Fridays: 7:30 a.m.—6:00 p.m.
Saturdays: 8:00 a.m.—12:00 noon

Information/Admissions Office:
(704) 373-6687

College Switchboard:
(704) 373-6633

Other numbers are listed in the Charlotte Telephone Directory.

The Doors Are Open . . .

Central Piedmont Community College is committed to the concept that, given enough time, most students can accomplish any learning task. The College strives to help students realize their potential as worthwhile and productive members of society.

Not all of the courses listed are offered every quarter. Class schedules are printed and delivered in Mecklenburg County by the *Charlotte Observer* the last Sunday in February, May, August and November as supplements to the Sunday editions.

Catalogs and class schedules may be obtained at the Information/Admissions Counter (Terrell Building) or by calling (704) 373-6777 to request copies by mail.

Calendar — 1982-1984

*SUMMER QUARTER 1982

Currently Enrolled Student Registration Tuesday and Wednesday, June 1-2
 Regular Registration Tuesday through Saturday, Monday through Friday, June 3-5, 7-11
 Final Registration Tuesday and Wednesday, July 6-7
 Classes Begin Friday, July 9
 Labor Day Holiday Monday, September 6
 Classes End Friday, September 10

FALL QUARTER 1982

Currently Enrolled Student Registration Tuesday and Wednesday, August 31 — September 1
 Regular Registration Thursday and Friday, Tuesday through Saturday, and Monday, September 2-3, 7-11, 13
 Final Registration Monday and Tuesday, September 27-28
 Classes Begin Thursday, September 30
 Thanksgiving Break Thursday through Sunday, November 25-28
 Classes End Saturday, December 18

WINTER QUARTER 1983

Currently Enrolled Student Registration Tuesday and Wednesday, November 30-December 1, 1982
 Regular Registration Thursday through Saturday, Monday through Friday, December 2-4, 6-10, 1982
 Final Registration Wednesday and Thursday, January 5-6
 Classes Begin Monday, January 10
 Classes End Saturday, March 26

SPRING QUARTER 1983

Currently Enrolled Student Registration Tuesday and Wednesday, March 1-2
 Regular Registration Thursday through Saturday, Monday through Friday, March 3-5, 7-11
 Final Registration Tuesday and Wednesday, March 29-30
 Classes Begin Thursday, April 7
 Easter Break Friday through Wednesday, April 1-6
 Classes End Wednesday, June 22

*SUMMER QUARTER 1983

Currently Enrolled Student Registration Tuesday and Wednesday, June 7-8
 Regular Registration Thursday through Saturday, Monday through Friday, June 9-11, 13-17
 Final Registration Monday and Tuesday, July 11-12
 Classes Begin Thursday, July 14
 Labor Day Holiday Monday, September 5
 Classes End Thursday, September 15

FALL QUARTER 1983

Currently Enrolled Student Registration Tuesday and Wednesday, August 30-31
 Regular Registration Thursday and Friday, Tuesday through Saturday and Monday, September 1-2, 6-10, 12
 Final Registration Wednesday and Thursday, September 28-29
 Classes Begin Monday, October 3
 Thanksgiving Break Thursday through Sunday, November 24-27
 Classes End Tuesday, December 20

WINTER QUARTER 1984

Currently Enrolled Student Registration Tuesday and Wednesday, November 29-30, 1983
 Regular Registration Thursday through Saturday, Monday through Friday, December 1-3, 5-9, 1983
 Final Registration Wednesday and Thursday, January 4-5
 Classes Begin Monday, January 9
 Classes End Saturday, March 24

SPRING QUARTER 1984

Currently Enrolled Student Registration Tuesday and Wednesday, February 28-29
 Regular Registration Thursday through Saturday, Monday through Friday, March 1-3, 5-9
 Final Registration Tuesday and Wednesday, March 27-28
 Classes Begin Monday, April 2
 Easter Break Friday through Monday, April 20-23
 Classes End Tuesday, June 19

* The Summer Quarter is a full quarter with no substantial reduction in course offerings and is not regarded as "optional."

Board of Trustees

George Morgan, Chairman
J. Emmett Sebrell, Vice Chairman
Richard H. Hagemeyer, Secretary

Appointed by The Governor	Expiration
Hila Richards Stratton	1983
William M. Claytor	1985
Willie A. Smith	1987
Maggie W. Ray	1989

Appointed by The Mecklenburg County Board of Commissioners	
W. Frank Dowd, Jr.	1983
Gerson L. Stroud	1985
J. Emmett Sebrell	1987
John H. Maxheim	1989

Appointed by The Charlotte-Mecklenburg Board of Education	
Spurgeon W. Webber	1983
Albert F. Sloan	1985
George R. Morgan	1989
Sandra L. Townsend	1987
Student Association President	Non-Voting Member

Administration

Richard H. Hagemeyer, President
N. Gayle Simmons, Executive Vice President

E. Worth Campbell, Jr.
Assistant to the President
Betty J. Funderburke
Director of Personnel
Melvin L. Gay
Vice President, Student Development
Renee P. Hill
Vice President, Learning Resources
Robert G. Hoelzel
Comptroller
David L. Hunter
Group Vice President, General Studies
Otto A. Lockee
Group Vice President, Continuing Education
Michael G. Myers
Director of Public Information, Special Projects
William A. McIntosh
Vice President, Educational Planning & Evaluation
J. C. Robertson
Manager, Plant Operations and Purchasing
Bruce H. Smith
Vice President, Administrative Services
Carl E. Squires
Group Vice President, Career Programs

Letter from the President

The 1982-84 college years promise to be exciting ones for students at Central Piedmont Community College. New programs and services will be added as we keep up with the expanding demands of students of all ages during this exciting decade. Our emphases include significant innovations planned with your convenience and learning in mind. In the past, such innovations have kept us in the forefront of colleges that are shaping the future of education.

But no matter how much effort we put into these programs, the strength of Central Piedmont Community College remains the same: excellence in teaching and personal attention by faculty and staff. We are known as a teaching institution — not publishing or research — and we take pride in the job we do.

I am sorry I will not get to meet each of you. However, the Open Door concept of CPCC also goes for my office. It is located on the third floor of the Terrell Building.

You will find this college is able to give you as much as you are willing to receive. We think learning can and should be challenging and enjoyable, and we attempt to make it so.

I wish you well.

Richard H. Hagemeyer
Richard H. Hagemeyer



General Information

The College

PHILOSOPHY AND OBJECTIVES

The doors of Central Piedmont Community College are open and accessible to all adults seeking to further their education. The College recognizes its responsibility to the community by providing general services to the surrounding area; by helping individual students recognize their potential as worthwhile and productive members of society; by providing opportunities for students to develop their physical, intellectual, and aesthetic capacities according to their individual desires to pursue an education; and by assisting students to attain goals consistent with their needs, interests, and abilities.

The College seeks to implement its philosophy by:

- (1) Providing the first two years of work in the liberal arts and pre-professional fields for those students who wish to transfer to four-year colleges.
- (2) Providing occupationally-oriented curricula for those students who wish to enter employment in the technologies.
- (3) Providing occupationally-oriented curricula for those students who wish to be employed in business and commerce.
- (4) Providing occupationally-oriented curricula for those students who wish to enter employment in health-related fields.
- (5) Providing occupationally-oriented curricula for those students who wish to enter employment in public-service areas.
- (6) Providing occupationally-oriented curricula for those students who wish to enter employment in the skilled trades.
- (7) Providing a program of general education for the social, cultural and personal development of those individuals wishing to continue their education beyond high school.
- (8) Providing single or combination courses needed by adults in the community to update their occupational capabilities to meet the challenges of a changing technological society.
- (9) Providing courses for the individuals whose education stopped short of high school graduation and for those who wish instruction in home and family education and leisure-time activities.
- (10) Providing counseling and guidance services to all students.
- (11) Providing community educational services for organizations and individuals — including speakers, concerts, resource personnel or materials, special institutes or programs and reading lists as requested.

The College is aware that the implementation of these objectives in an open-door admission environment will bring to its campus students who differ greatly in age, motivation, and purpose as well as educational and personal background. The challenge of educating these students cannot be met with traditional methods of instruction alone. In recognition of this fact the following policy statement has

been adopted by the Trustees of the College:

"Central Piedmont Community College is committed to the concept that, given enough time, most students can accomplish any learning task. This is based on the concept that students basically differ in their rates of learning rather than their ability to learn.

"This commitment carries with it a resolve that the College must have as a major objective the provision of ample opportunities for students to learn at varying rates. It also implies a belief in the concept of individualized control of the rates of learning."

The Trustees and staff of the College are dedicated to the task of creating the environment for learning which is defined in the above statements of philosophy, objectives and policy.

HISTORY

CPCC was formed in 1963 by a merger of Mecklenburg College, a liberal arts institution, and the Central Industrial Education Center. The N.C. General Assembly designated CPCC as one of the original 12 community colleges in the State's new, comprehensive system.

CPCC's founding and only president, Richard H. Hagemeyer, took charge of CPCC — first called Charlotte Community College — in 1963. He had worked for the automotive industry, as an administrator at Henry Ford Community College in Michigan and, since 1961, for the Charlotte-Mecklenburg Schools.

Initially, the College offered a dozen vocational programs and some extension courses to just under 2,000 students. The students were split between the campuses of Mecklenburg College off I-85 near N.C. Hwy 16 and the Central Industrial Education Center housed in the former Central High School at Kings Drive and Elizabeth Avenue. The high school had closed when Garinger High School was built.

In 1964, CPCC's Trustees decided to concentrate expansion of the College at the downtown site. The facilities of Mecklenburg College were sold and the Board began purchasing tracts of land surrounding the Elizabeth Avenue location.

Ground was broken for CPCC's two major classroom buildings — now Kratt and Mecklenburg Halls — after a local bond referendum generated \$3 million for College facilities in 1966. It was the first step toward completion of 23 buildings the College now occupies on 33 acres bounded by Fourth and Seventh Streets, Independence Boulevard, and Kings Drive.

Voters again showed their support for CPCC through bond issues in 1970 — providing \$4.6 million for land purchases and construction of the Career Education Building — and in 1978, approving \$1.6 million for the College's 600-car parking deck.

Because of the number and quality of educational programs offered, the College was invited in 1969 to join the League for Innovation in the Community College, an organization of 16 leading community colleges in the United States. Since then, CPCC has strived to develop and share new techniques in education with these other pioneering

institutions.

CPCC has grown to serve some 26,000 students each quarter or about 54,000 different people each year. Since 1964, the College has offered the first two years of liberal arts curriculum for students transferring to four-year colleges for upper division study. By 1974, CPCC had grown to optimum size on the downtown site. College Trustees decided against asking for more tax dollars to build additional campuses; instead, they sought to expand CPCC's offerings efficiently and economically by using existing facilities and alternative delivery systems.

By 1980, the College was operating off-campus — offering general studies, vocational and continuing education courses in over 200 locations. Schools, churches, community centers, and businesses became settings for CPCC classes.

To maintain quality in these off-campus courses, and to provide support services for teachers and students, the College established three learning centers in 1979-81. With support from the Mecklenburg County Commission, CPCC rented and renovated structures for centers in Cornelius, Matthews, and Charlotte's Freedom Mall. In these area learning centers, students now register for CPCC courses, obtain student I.D.'s, complete lab work and self-paced courses, use audiovisual learning materials or obtain counseling or financial aid information. Travel to the main campus is reduced and education is made more accessible to citizens.

In addition, the College now offers education by television, newspapers, telephone, and radio.

LOCATION

The campus, situated at Elizabeth Avenue and Kings Drive in uptown Charlotte, is ideally located near the center of the population which it serves and is convenient to public transportation and expressway systems serving the greater Charlotte area. Area learning centers are located in Cornelius, Freedom Mall, and Matthews.

ACCREDITATION

Central Piedmont Community College is accredited by the Southern Association of Colleges and Schools, Commission on Colleges; the North Carolina State Board of Community Colleges; American Dental Association: dental assisting and dental hygiene programs; American Medical Association: medical assisting and medical record technician programs; American Physical Therapy Association: physical therapist assistant program; and the American Medical Association: respiratory therapist program.

MEMBERSHIP

Central Piedmont Community College is a member of the American Association of Community and Junior Colleges and the North Carolina Association of Junior Colleges, the American Council on Education, the League for Innovation in the Community College, the North Carolina Association of Colleges and Universities, and the Southern Association of Colleges and Schools.

FACILITIES

The institution is supported by state, federal and local funds and thus is able to provide superior instruction and optimum use of excellent equipment and laboratories at a minimum cost to the student. The campus includes parking areas and a learning resources center, classrooms and well-equipped, modern laboratories and specialized shop areas. There are 24 buildings on the main campus of 33 acres.

CLASSROOMS

In addition to main campus classrooms, CPCC uses almost 300 classrooms in neighborhood churches, schools, office buildings, and even private homes.

GYMNASIUM

A gymnasium for basketball, volleyball, and badminton is in Taylor Hall. There are also weight rooms, exercise rooms, lockers and showers.

LEARNING CENTERS — CPCC Learning Centers are designed to meet the demands of those who want to attend CPCC in their neighborhoods. There are three Learning Centers located throughout Mecklenburg County for the convenience of students. The **WEST AREA LEARNING CENTER** is located in Freedom Mall Shopping Center, Charlotte; the **MATTHEWS AREA LEARNING CENTER** is located in Matthews Depot Shopping Center; and the **NORTH AREA LEARNING CENTER** is located on Highway 21 South, Cornelius.

The Learning Centers are a new concept in education based on self-paced individualized instruction taught through various media such as video tape, computer, cassette tape, slide sound, and learning packages. In addition, the Learning Centers provide TV courses, DOLLY and student testing and counseling services by appointment. Registration services are available for all Learning Center and CPCC courses during scheduled registration periods.

The Learning Centers are open and accessible to students who wish to further their education. The goal of the Learning Centers is to provide services that will help students realize their full potential as individuals as well as their educational goals and needs. The staff of the Learning Centers is dedicated to educating and supporting students in whatever task or endeavor they may choose.

The Learning Centers offer some curriculum courses which may be completed at the Centers. Labs or lectures for specific courses taught on-campus, videotapes of the telecourses aired on WTVI (Channel 42) and cablevision (Channel 3), and free mini-courses and course segments are available. Basic skills programs in mathematics, language, and reading are available through self-study courses. The Learning Centers also serve as administrative assistance centers for teachers and department heads offering off-campus classes.

STUDIOS, LABORATORIES AND SHOPS

Ample opportunity for students to make practical application of their classwork is an inherent part of many programs offered at the College. The campus complex contains numerous laboratories, shops and specialized areas. Students are required to understand and follow the safety standards established for each program curriculum.

HAGEMEYER LEARNING RESOURCES CENTER

The Hagemeyer Learning Resources Center supports the total instructional program of the College. There are tapes, slides, films, programmed materials, books, and periodicals in the Center. New audio and visual materials and equipment are added, when appropriate, to provide a wide range of information to students and faculty. Facilities and staff are available for local production of informational media.

Auditorium — Pease Auditorium has 440 seats equipped for note-taking but is ideal for plays, concerts, and movies. It can be sectioned into thirds. PEASE CONFERENCE ROOM is nearby and suited for small conferences.

The **Library**, housed on the third and fourth floors, has a collection of print and non-print materials particularly adapted to the objectives and curricula of the College. Resources of the Library include reference books, bound and unbound periodicals, pamphlets, microforms and audio-visual materials, in addition to the general book collection and a collection of mini-courses for independent study. Micro-form readers, and copying machines are included in services provided. An AV Center on the third floor contains materials of all types, equipment for viewing or listening, and browsing opportunities for those interested. An open-shelf arrangement is used to stimulate interest and to provide easy access to the collection of print and non-print materials. There are frequent displays on subjects of special interest. Resources of other libraries in the Charlotte area and state-wide are available to faculty and students through inter-library loans. The Library is staffed by trained librarians who are aided by paraprofessional staff, clerical personnel and student assistants. Students are urged to become familiar with the regulations which have been established for the benefit of all who use the Library. These procedures appear in the Student Handbook and the Student Library Bulletin.

The **Telecourse Center** is located on the ground floor of the Learning Resources Center. It is a service center with two major functions. It serves as the lab for courses offered over local television. The Center also houses a variety of outstanding video programs which may inform, educate, and inspire both faculty and students.

Academic Information

INSTRUCTION PROGRAMS

The College offers a wide variety of learning opportunities to all who seek instruction or training. These opportunities for learning are organized into eight general instructional programs.

1. **The Diploma Program:** This program offers curricula designed to meet the ever-increasing need of our complex society for skilled craftworkers. A graduate from a diploma curriculum should enter employment with a high degree of manipulative skill. The graduate also gains knowledge of basic mathematics, science and communications. The following curricula are available: Air Conditioning, Heating and Refrigeration; Automotive Body Repair; Automotive Mechanics; Computer Operations; Dental Assisting; Diesel Mechanics; Graphic Arts (Printing); Horticulture; Medical Office Assisting; Piano Tuner Technician; Practical Nursing; Welding.
2. **The Associate In Arts Degree Program:** The purpose of this program is to provide curricula in the liberal arts and the pre-professional areas which will enable students to enter as juniors at the four-year institution of their choice. While the liberal arts program suggested elsewhere in this catalog will satisfy the requirements of most senior institutions, it is the responsibility of all college transfer students to identify as early as possible the institutions to which they will apply for transfer to determine the specific requirements of those institutions for the freshman and sophomore years. Each student's curriculum should be planned by the student and a counselor or faculty adviser with a specific four-year institution in mind.
3. **The Associate In Fine Arts Degree Program:** This program offers curricula in dance, drama, fine arts, and music so that the student can declare a major in one of these areas. It will prepare the successful student for entrance as a junior at a four-year college. However, the student should obtain information concerning specific requirements from the college to which transfer is being planned.
4. **The Associate In Applied Science Degree Program:** This program offers business, health-related and public service curricula as well as curricula in engineering and other technologies. These curricula are designed to enable the graduate to enter an occupation with a marketable skill, a high level of competency and the ability to communicate intelligently. The curricula provide not only highly specialized courses to develop technical skill, but also general education courses to enable the student to be an effective member of society. The following curricula are included in the program: Accounting; Architectural

Technology; Associate Degree Nursing; Bookkeeping/Clerical; Business Administration (Banking & Finance, Business Management, Postal Service, Real Estate); Business Data Processing; Civil Engineering Technology; Advertising Design; Interior Design; Correctional Science; Dental Hygiene; Electrical Engineering Technology; Electronics Engineering Technology; Air Conditioning, Heating and Refrigeration Technology; Fire Science Technology; Food Service Technology; Graphic Arts (Printing) Management; Horticulture Technology; Hotel/Restaurant Management; Human Service Associate (Casework and Outreach, Child Development, Interpreter Training); Industrial Safety, Health, Security and Investigations; Police Science, Manufacturing Engineering Technology, Mechanical Engineering Technology, Marketing and Retailing, Medical Office Assisting Technology, Medical Records Technology, Paralegal Technician, Physical Therapist Assistant, Recreation Associate, Respiratory Therapy, Secretary - Executive, Secretary - Legal, Secretary - Medical, Secretary - General Office, Transportation.

5. Certificate Program: The purpose of these programs is to provide special study in health-related and career-oriented fields. The following programs are available: Early Childhood Aide, Data Entry Operations, Health Record Clerk, Medical Transcription, and Nurse Assistant.

6. The Associate In General Education Program: The degree of Associate in General Education is designed for persons who want two years of college work for its own sake.

Candidates for this degree may present credit courses taken in the Associate in Arts Programs, the Associate in Applied Science Program, diploma programs, credit courses in the Advancement Studies Department, C.L.E.P., or any combination of these. A.G.E. students may enroll in any program for any course in which they can meet prerequisites. To graduate with the A.G.E. Degree, candidates must complete a total of 96 credit hours of which a minimum of 32 hours has not been credited toward a previously earned degree or diploma.

7. The Continuing Education Program: The Continuing Education Program strives to meet the needs of the adult out-of-school population of the area by providing: general education opportunities to those who desire pre-high school courses, high school completion courses, cultural and enrichment courses, and general interest courses; extension courses to those who desire vocational training, retraining, or up-grading. No college credit is granted for these courses; however, Continuing Education Units (CEU) are awarded upon completion of many of them. Almost any educational need of the community not being met by a regular curriculum class can be met by the Continuing Education Program.

8. Advancement Studies: Advancement Studies is a service program offering mathematics, biology, chemistry, grammar and writing for any student who wishes to develop skills in any of these areas. All Advancement Studies courses are designed so that students may begin at whatever level they are currently achieving and advance as rapidly as they choose toward whatever objectives they set for themselves.

CHARLOTTE AREA EDUCATIONAL CONSORTIUM

In addition to the classes listed in the quarterly schedule, other classes not available at Central Piedmont Community College may be offered at the 10 other consortium colleges. Information is available through the office of the Assistant for Institutional Administrative Services, 412 Terrell Administration Building, telephone 373-6908.

DOLLY is a telephone system which provides free listening experiences to anyone who calls 373-6400. More than 600 taped programs are available.

DOLLY is in operation 24 hours every day. From 8 a.m. until 10 p.m. Monday through Thursday, and 8 a.m. until 5 p.m. Friday, you may hear any tape in **DOLLY's** collection by dialing 373-6400 and requesting the program you want to hear. During all other hours, consult **DOLLY's** weekly schedule in the comics section of "The Charlotte News" or "TV Week", and the Comics Section in "The Charlotte Observer."

A catalog of **DOLLY's** programs is available at the circulation desk of the Library and in Information Services. If you want a copy of the catalog, phone 373-6703, and we'll mail you one.

INSTRUCTIONAL OPTIONS UNLIMITED

Instructional Options Unlimited offers educational opportunities through non-traditional modes of education, i.e., TV, radio, computers and newspapers. Through these media IOU seeks to provide quality courses for persons from varied socio-economic backgrounds. It encompasses a variety of teaching devices, strategies, methods and course objectives which can reach a greater number of students. IOU embodies the belief that technological equipment and systems are available to make learning more convenient and individualized. Learning thus becomes more accessible to mid-career adults, homemakers, homebound and/or physically impaired persons who do not find the main campus or learning centers readily accessible.

Television and radio courses carry College credit for students who register, meet a required number of times with the instructor and pass required exams given in the Testing Center on campus or in off-campus Learning Centers. The only difference from traditional courses is that students view and hear lectures at home. Cost for courses through the IOU Program is the same as for traditional courses.

Because television, radio and newspapers reach such large audiences and because there are fewer limits on numbers of students based on classroom size, IOU courses have the potential to be the most flexible of instruction available.

MINI-COURSES are self-instructional learning modules designed to fulfill the educational needs for persons who wish to learn part of a subject or skill without having to take an entire course; those who just want to learn something new in order to broaden skills and knowledge and enrich their lives; and those who need a certain skill to obtain employment or advance in present jobs.

For further information call 373-6708.

General Information

SHORT SUMMER SESSIONS are timed to allow university students to take transfer and other courses during their summer vacations. High school graduates can get a running start on their college careers in these six-week concentrated studies.

WEEKEND COLLEGE is a variety of courses and workshops offered each quarter on the weekend. Weekend classes essentially fall into two formats:

1. classes which meet on Saturdays for an eleven-week period and
2. classes which meet on both Friday evenings and Saturdays for fewer than eleven weeks (usually three to five weeks, depending on the subject matter).

Weekend College is designed to meet the demands of those who cannot attend classes weekdays or evenings.

POLICY

ADMISSION REQUIREMENTS

Central Piedmont Community College follows an "open door" policy which does not impose restrictive standards for admission. Admission to CPCC is open to all qualified students without regard to color, creed, handicap, race, or sex. Admission to the College-at-large, however, does not imply that a student will be admitted immediately to a program within the College that may have specified admission requirements.

In most cases, before students are admitted to their program of study, a series of placement tests is scheduled and an academic advising interview is arranged. Placement tests determine skill levels in mathematics, English, and reading.

All **degree** programs and **health career diploma** programs require high school graduation or the equivalent. The high school graduation requirement is considered to have been met by graduation from high school, or possession of a State High School General Equivalency Certificate (G.E.D. Diploma), or by possession of an Adult High School Diploma.

Admission to **other diploma** programs normally requires high school graduation or the equivalent; however, exceptions may be made on an individual basis.

Central Piedmont Community College accepts credits from accredited colleges and technical institutes. Only courses applicable to the program of study at CPCC in which grades of "C" or better have been earned will be accepted. Program Counselors are responsible for the evaluation and official transfer of credits from other institutions.

ADMISSION PROCEDURES

Applicants wishing to enroll in any program offered by the College should:

1. Obtain a Student Data Form from the Information/Admissions Counter in the Terrell Administration Building (second floor). Applications may also be requested by mail or by telephone. The applicant's Social Security number, which becomes the student identification number, should be listed on the form.
2. Submit the completed application to the Information/Admissions Counter or return by mail.
3. Request that transcripts of all high school, pre-college, and college work be sent to: Admissions, CPCC, P.O. Box 35009, Charlotte, N.C. 28235. (Transfer students from other accredited colleges do not need to have their high school transcripts forwarded.)
4. Take placement tests if this is required for the program of study.
5. Complete an academic advising interview with a Counselor and/or department advisor. At this time, a recommended schedule of classes for the first quarter of study will be developed.
6. Register for classes during the appropriate registration period. The Social Security number, which becomes the student identification number, will be needed to complete the registration process.

The College recognizes that many adults in the community will wish to register for only one or two courses as **special credit students**. In order to encourage this type of enrollment, the College will allow a qualified person to be admitted to the College and to enroll for courses without taking placement tests or completing an academic advising interview, provided that the person does not intend to complete a degree or diploma program.

REGISTRATION

Registration dates are published in the College calendar and in the quarterly class schedules.

The College year consists of four quarters. Students are encouraged to register as early as possible to avoid the inevitable delays of late registration and to increase the probability of obtaining the schedule of classes which best meets their needs.

ATTENDANCE

Absences seriously disrupt a student's orderly progress in a course, and there is a close correlation between the number of absences and the final grade. Although an occasional absence may be unavoidable, the absence in no way excuses a student from meeting the requirements of the course. The student is still responsible for preparing all assignments for the next class and for completing work missed. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course, as well as authority to determine whether the student shall be reinstated.

COURSE LOAD

A degree or diploma student who is registered for the equivalent of at least twelve quarter hours of credit is considered a full-time student. Students in College Transfer and business programs normally may take a maximum of 18 credit hours each quarter. Students desiring to take in excess of 18 credit hours must obtain special permission from the curriculum Vice President.

COURSE SUBSTITUTION

Course substitutions are permitted upon the recommendation of the curriculum Department/Division Head and with the approval of the Vice-President. No credit hours shall be granted. No substitute course is required unless failure to do so would place the student's total hours below that required for graduation.

COURSE WAIVER

A student may be permitted to waive a course which is ordinarily required if approval is obtained from the curriculum Department/Division Head and Vice-President. No credit hours shall be granted. No substitute course is required unless failure to do so would place the student's total hours below that required for graduation.

CREDIT BY EXAMINATION

Upon petition from a student, credit by examination may be given. If circumstantial evidence indicates the probability of special aptitude or knowledge on the part of the petitioner, a written, oral and/or performance examination will be developed and administered by an instructor of the course. The examination is subject to the approval of the department head. Prior to the administration of the examination, the student will be interviewed by the instructor to determine the student's eligibility for the examination. If the student achieves satisfactory performance on the examination, a grade of "X" will be recorded. The "X" grade carries no quality points, but credit hours will be given identical to the number of credit hours normally assigned to said course at Central Piedmont Community College.

GRADUATION

Degrees: Central Piedmont Community College awards four degrees: the **Associate in Arts**, the **Associate in Fine Arts**, the **Associate in Applied Science**, and the **Associate in General Education**.

1. **The Associate in Arts Degree and Associate in Fine Arts:** (A two-year degree acceptable for transfer to senior colleges and universities)
 - a. Completion of required 1000- and 2000-level courses totaling a minimum of 96 credit hours, with
 - b. Official copies of high school and other college transcripts on file in the student's record folder at CPCC.
 - c. A minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 16 of which must be the final credit hours prior to graduation.
 - d. Completion of a minimum of 32 additional quarter hours if the student has previously earned an Associate in General Education Degree.

2. The Associate in Applied Science Degree

- a. Completion of required courses in the student's program of study totaling a minimum of 96 credit hours, with
- b. Official copies of high school and other college transcripts on file in the student's record folder at CPCC.
- c. A minimum of 32 quarter hours must be earned in residence at Central Piedmont Community College, 16 of which must be the final credit hours prior to graduation.
- d. Completion of a minimum of 32 additional quarter hours if the student has previously earned an Associate in General Education Degree.

3. The Associate in General Education Degree

- a. A maximum of 30 quarter hours in 9000 courses may be used.
- b. Completion of 96 hours of college credit courses; or
- c. Completion of 32 additional hours of college credit courses if the student has previously earned another degree; with
- d. Official copies of high school and other college transcripts in the student's record folder at CPCC.
- e. The final 16 hours in this program must be taken in residence at CPCC.

Diplomas: Central Piedmont Community College also awards diplomas in various programs. Requirements for diplomas are as follows:

- a. Completion of a minimum of 64 credit hours of required study in programs of vocational career study; with
- b. Official copies of high school and other college transcripts on file in the student's record folder at CPCC when this is a program requirement.
- c. The final 15 hours in diploma programs must be taken in residence at CPCC.

Certificates: Certificates for certain courses having specific requirements are also awarded by CPCC.

LETTER GRADES

The following letter grades are used at Central Piedmont Community College:

- A: The student has met the maximum obtainable objectives established for the course as set up by the instructor and the department involved.
- B: The student has met objectives far above standard course work as set up by the instructor and the department involved.
- C: The student has met the minimum objectives of the course work as set up by the instructor and the department involved.
- IM: Incomplete (Makeup) The student, in the opinion of the instructor, has made substantial progress toward, but has not met, the minimum objectives established for the course. Removal of the IM may be accomplished by the completion of the remaining objectives in a manner and time decided upon by the student, instructor, and department head involved. IM will not count as credit hours attempted. A student need not re-

General Information

enroll to remove an IM. An IM must be resolved within two quarters.

IR: Incomplete (Repeat) The student has not, in the opinion of the instructor, made substantial, if any, progress toward the minimum objectives established for the course and is likely to benefit by repeating the course. IR will not count as credit hours attempted. The student must re-enroll for that course to remove an IR.

S: Satisfactory

W: Official Withdrawal

X: Credit by Examination

AUD: Audit

PROCESSING OF GRADUATION CERTIFICATION

1. If a student is within two quarters of graduation, including the current quarter of enrollment, a Graduation Request Form should be obtained from the Graduation Certification Office in the Terrell Building (Room 218-219), phone 373-6525.
2. After receiving this form, staff in the Graduation Certification Office will review all records in the student's folder and will provide a list of courses that must be completed in the final quarter of study.
3. Upon successfully completing the final courses required for graduation, a notation of the degree or diploma and the date of graduation is entered on the student's CPCC transcript. Graduates may request copies of their transcript from the Office of Student Records (see below) whenever it is necessary to provide documentation of completed course work and related training for employers and others requiring this information.
4. Graduates who would like an engraved degree or diploma, suitable for framing as a memento, need to fill out a Degree/Diploma Order Form in the Graduation Certification Office (Room 218-219 of the Terrell Building) during their last quarter of study before the last day of classes (Monday-Friday). This form is then presented to the Business Office with payment of \$7.50* to cover the cost of engraving and mailing. Degrees and diplomas are mailed to graduates by the Graduation Certification Office during the following quarter.

* NOTE: This cost is subject to change without notice.

QUALITY POINT AVERAGE

The College uses a Quality Point Average system based on 4.0, which equals an "A." "B" equals 3.0, "C" equals 2.0. Overall average is determined by dividing total quality points by total hours completed. A student's quality point average is the equivalent of the numerical average for all course work completed.

REPEATING SUCCESSFULLY COMPLETED COURSES

If students wish to repeat a course in which they have received passing grades twice, they must secure departmental permission before being permitted to register again for that course.

SCHEDULE ADJUSTMENT

Students may make schedule adjustments throughout the announced registration period. A special schedule adjustment week following the close of the registration period provides an opportunity for students PREVIOUSLY REGISTERED to make required adjustments to their schedules. Classes may be dropped for a full refund of tuition. During the schedule adjustment period, a student may add a class only to replace a class dropped because of class cancellation or an error made in preparing the student's schedule. During the schedule adjustment period, a student may switch class sections (i.e., classes) without obtaining written permission provided the new class section is not filled. Should a student make an error in registering for a class (i.e., registers for a math class that is too advanced), adjustment to correct the error may be made if department head approval is obtained. Such approval must be in writing and specify the error made, as well as the change required to correct it.

RECORDS AND TRANSCRIPTS

The College maintains the position that students' records are their own property; therefore, this information is released only when the student signs the Records Release Form in the Office of Student Records (Room 200, Terrell Building). Students may have copies of their transcript sent to any institution or individual they choose. They may also obtain copies for their own use. The first two copies are free. After that, \$1.00 per copy is charged.

WITHDRAWAL FROM CLASSES

A student who for any reason cannot complete a course may officially withdraw prior to the last ten calendar days of the quarter. The request for official withdrawal must be presented to the Registration Center. Exceptions to the ten-day deadline will be made in hardship cases with the approval of the curriculum vice president. If a student is out of contact for two consecutive weeks, the instructor has authority to withdraw the student officially from the course and to determine whether the student shall be reinstated. If the student is withdrawn and not reinstated, a final grade of "W" will be assigned for the course.

Student Development

The Student Development Division provides many kinds of assistance and activities which enable students to broaden their educational experiences and overcome problems that may interfere with their academic success.

ACTIVITIES

ASSOCIATION: The Student Association, of which every registered CPCC student is a member, consists of a Student Senate and twenty-three Program Area Committees. Curricular areas elect students to the PAC's and, in turn, members of the PAC's are appointed to the Student Senate. This is a unique concept of student representation and every interested student is urged to participate. A copy of the Student Association constitution and other information about the Student Association is available in the Student Association Office, Room 102 of Taylor Hall.

THE FORUM: The Central Forum, operated by Yeager Enterprises, Inc., has a grill service available for short orders and a hot meal service available from 7:30 AM until 7:00 PM, Monday through Thursday, and until 4:00 PM, Fridays. Breakfast is served from 7:30 AM until 9:30 AM.

ORGANIZATIONS: The College encourages participation by students in all areas of campus life and affairs. Student organizations are chartered by the Student Association and are aided in the planning of their activities by the Director of Student Activities and in the financing of those activities by the Student Association. These organizations include service organizations, special interest groups, athletic clubs, honors societies and professional organizations. A complete list of organizations is included in **The Student Handbook**.

PUBLICATIONS: The area of Student Activities utilizes a variety of communication methods, including a **Student Newsletter**, and **The Spark**, a student newspaper (five issues quarterly) to keep students informed of campus activities. **The Paul Atwell Memorial Literary Magazine**, published annually, serves as a showcase for creative writing and graphics.

THE STUDENT HANDBOOK, published as needed, contains much useful information for students and serves as a guide to those unfamiliar with the campus.

Contact the Student Activities Office, Taylor Hall, Room 102, for further information.

SPORTS: Several sports for men and women, indoor and outdoor, make up the intramural program. Basketball, volleyball, badminton, and other intramural programs in which students show an interest are played in the multi-purpose room. Outdoor sports include tennis, golf and softball. In some of these, individuals are chosen to make up All-Star teams which play area colleges.

In addition to the above, CPCC has soccer and football clubs open to all interested students. Information on all athletic activity is available in Room 102 of Taylor Hall.

SOCIAL AND CULTURAL EVENTS: The area of Student Activities, working with the Student Association, plans and sponsors various social and cultural events during the year. Included in these activities are concerts, lectures, field days, athletic events, music and drama productions.

TAYLOR HALL: Pool and table tennis tables and game machines are in the recreation center, which is located in Taylor Hall just to the right of the main lobby. The recreation center is open from 8:30 AM until 8:00 PM, Monday through Thursday, and 8:30 AM to 4:00 PM Friday.

The multi-purpose room is on the left of the main lobby in Taylor Hall. There, students may exercise and play basketball, volleyball, and badminton. The open hours are posted and vary according to the class schedule. Questions concerning schedules and activities can be answered by the attendant at the information desk in the main lobby.

COUNSELING

Counselors and support staff in the Counseling Services Department are available to provide information and assistance in the areas of high school articulation, admissions, G.E.D. testing, adult high school completion, orientation to the College and to curriculum programs, career counseling, international student processing, and graduation certification. In this regard, students may meet with Counselors on an individual basis or in groups.

Counselors at CPCC also provide personal counseling for students on a time available basis. Students are referred to appropriate community agencies or resource persons when it is apparent that they can be assisted more effectively in this way. Counselors are also available to the community as consultants.

STUDENT RESPONSIBILITIES AND RIGHTS

CONDUCT OF STUDENTS

College students are considered to be mature individuals. Their conduct, both in and out of College, is expected to be that of any respectable adult in a public place. Under these circumstances, it is expected that students will remember that they are in a democratic situation and that the reputation of the institution rests on their shoulders. Common courtesy and cooperation make the above suffice for a long list of rules.

However, students should note that the possession, consumption, or distribution of alcohol or illicit drugs on campus is specifically prohibited and regulated by State statute; violators will be prosecuted by civil authorities.

Failure to meet standards of conduct acceptable to the College may result in disciplinary suspension. The procedure stated below will be followed when disciplinary action against a student is being considered:

1. The student will be informed of the charges against him/her both in writing and in conference with the Vice President for Student Development or representative.
2. The student will be advised of the date, time location, and procedures of the meeting in which the charges will be presented.
3. The Vice President for Student Development has the right to suspend temporarily a student until the hearing process can be completed.
4. The charges will be described and examined at a meeting of the accusers, the student, the Vice President for Student Development or representatives, advisors and assistants that either party wishes to bring. The Vice President for Student Development must be notified within two days of the hearing regarding anyone other than the principal parties who will be attending.
5. The Vice President for Student Development will have two days following the hearing to consult again with all parties, as may be necessary, and render a decision.
6. The decision may be appealed to the Executive Vice President and the President of the College.
7. A student who is dismissed must apply to the Vice President for Student Development before readmission can be approved.

STUDENT GRIEVANCE PROCEDURE

Students wishing to appeal any decision affecting their status at Central Piedmont Community College should first appeal to the instructor or staff member making the decision. If students are not satisfied and the problem involves a curriculum matter, appeal may be made through the appropriate curriculum Department/Division Head to the curriculum Vice-President and the President. Non-curriculum matters follow the same route except through the Vice-President for Student Development rather than a curriculum Vice-President. All such appeals should be in writing and state the basic facts of the case.

A grievance related to discrimination should first be presented to the appropriate compliance officer. Grievances related to Section 504 of the Rehabilitation Act of 1973 should contact the Director of Special Services; for Title IX, the Personnel Director.

CARE OF RECORDS

Policies and Procedures

Central Piedmont Community College, in the execution of its responsibilities to students, must maintain accurate and confidential student records. The College staff must recognize the rights of students to have access to their academic and personal records in accordance with existing College policy and the Family Educational Rights and Privacy Act of 1974 (Buckley Amendment).

Definition of Term "Educational Records":

1. These regulations as defined under the provisions of the Family Educational Rights and Privacy Act of 1974 include files, documents, and other materials which contain information directly related to students and which are maintained by an educational institution in an authority on behalf of the institution. The term "educational record", under the provision of the law, does not include the following:
 - a. Records of institutional, supervisory, and administrative personnel which are in the sole possession of the maker and which are not accessible or revealed to any other person except a substitute for the above named personnel;
 - b. Records and documents of Security Officers of the institution which are kept apart from such educational records;
 - c. Records on students which are made or maintained by a physician, psychiatrist, psychologist, counselor, or other recognized professional or para-professionals acting in their official capacity and which are made, maintained, or used only in connection with a provision for treatment for the student and not available to any one other than persons providing such treatment, except that such records can be personally reviewed by a physician or other appropriate professional of a given student's choice;
 - d. Financial records of the parents of the students or other information therein contained.
 - e. Confidential recommendations if a given student has signed a waiver of the students rights of access, provided that such a waiver **may not** be required of the student; and
 - f. Confidential letters or statements of recommendation which were placed in educational records prior to January 1, 1975, if such records or state-

ments are not used for purposes other than those for which they were specifically intended.

Control Provisions on Student Records and Student Information:

1. Transcripts and other information are released only with written permission of the student. When information other than the transcript is released from the student's official record (Office of Student Records), the student will receive a copy of the release.
2. Students have the right to inspect their own records whether recorded in hard copy form or recorded in the form of magnetic disks and microfilm. Upon inspection the students are entitled to an explanation of any information contained in their record.
3. The official student file shall not be sent outside the Counseling Office, Records Office, Information Services, Financial Aid Office, Veterans Affairs Office, or other custodial office except in circumstances specifically authorized by the appropriate Vice President. The authorization for such special circumstances must be in writing.

Release of Student's Educational Records to Educational Institutions and State and Federal Agencies:

1. Such requests for confidential information shall not be honored without proper written consent for the release of such records by the student except under conditions indicated in paragraphs 2 and 5 below.
 - a. The written consent must specify the records or the specific data to be released, to whom it is to be released, and the reasons for release.
 - b. Each request for consent must be specific, and each request must be handled separately.
2. Request for confidential information will be honored without prior consent of the student in connection with an emergency, if the knowledge of such information by appropriate persons is necessary (in view of a reasonable person) to protect the health or safety of the student or other persons. However, such a release shall have the approval of a Cabinet officer unless it can be shown that under the circumstances time would not permit or no Cabinet officer was available.
3. The following "Directory Information" may be made available to the public by the College unless students notify the Vice President for Student Development in writing by the third week of the quarter that such information concerning themselves is not to be made available:
 - a. Student's name and hometown
 - b. Major field of study or program
 - c. Dates of attendance, degrees, diplomas, or awards received and the most recent previous educational institution, and
 - d. Place of birth.
4. Information Other Than "Directory Information" — Any release of student information for public use or use by the media except that designed above (paragraph 3) must have prior written approval by students involved.
5. Disclosure to Government Agencies — Properly identified and authorized representatives of or bona fide written requests from the Comptroller General of the United States; the Secretary of Health, Education and Welfare; an administrative head of a federal

education agency; or state educational authorities may have access to student or other records which may be necessary in connection with the audit and evaluation of federal or state supported educational programs or in connection with enforcement of the federal or legal requirements which relate to such programs. Routine requests for student data from such agencies as HEW, OEO, research agencies, and state reporting agencies may be honored without prior approval of the student only in formats where students are not identified.

6. Faculty and administrative officers of the College who demonstrate a legitimate educational need will be permitted to look at the official student file for a particular student.
7. Confidential information requested by other than federal or state agencies as specified in paragraph 5 above will be released only under the following conditions:
 - a. An official order of a court of competent jurisdiction, or
 - b. Subpoena (students will be notified immediately by registered mail that their records are being subpoenaed.)
8. Record of Who Has Access — A record of access to the official student file will be maintained within the file itself. This record will show the **name, address, date, and purpose** of the person who has been granted access. All persons who have access will be included in this record except those institutional employees who, because of the nature of their duties, have been granted access.

Student's Rights to Question Content of Their Official Student Files:

1. Students have the right to review their official records maintained by the institution. Furthermore, students may question any inaccurate or misleading information and request correction or deletion of that data from their files.
2. All such requests will be sent to the Director of Student Records and will become a part of that student's file.
3. All requests for correction of a student file will be acted upon within 45 days of receipt of the request. If the custodian can verify that such data is, in fact, in error, appropriate corrections will be made and the student will be notified in writing when the correction has been completed. If an error cannot be readily substantiated, the request will be referred to an Ad Hoc Hearing Committee appointed by the Executive Vice President.

After students have had the opportunity to present their case to the hearing committee, the Committee will render a decision in writing stating the reasons for its decision. If the decision is in agreement with the students' request, the students will be permitted to review their file to satisfy themselves that the change has been made correctly. If the students' request is denied, they will be permitted to append a statement to the record in question, showing the basis for their disagreement with the denial. Such appendages will become a permanent part of the record.

Annual Notice to Students of Their Rights Under Family Educational Rights and Privacy Act of 1974:

1. A general statement regarding release and access of student information will be published in the College Catalog.
2. The College policy on access to and release of student information will be made available to students, faculty, and staff. This information will be placed in the Student Handbook and will specify the procedures for release of student information, student access to records, a description of all student records being maintained by the College, and the procedure for students to initiate a hearing to challenge accuracy of educational records.

SUPPORT SERVICES FOR ALL STUDENTS:

The **Advancement Studies Program** provides developmental programs for students whose educational backgrounds have not prepared them for the curricula they have chosen, supplementary programs that are coordinated with many of the regular College classes and a variety of other programs for those who wish to broaden their knowledge.

BOOKSTORE

It is the student's responsibility to obtain the required textbooks and supplies prior to the first meeting of a class. The College maintains a bookstore from which the student may purchase the necessary books and supplies. The bookstore will buy used books from the students the last week of every quarter.

THE DROP-IN CENTER is a warm and friendly place where students can find many kinds of help from specially trained fellow students. The Center is located on the second floor of the RH Learning Resources Center and open from 8:00 a.m. until 8:00 p.m. Monday through Thursday; 8:00 a.m. until 5:00 p.m. on Friday.

EMERGENCY FIRST AID TEAM

Central Piedmont Community College's first aid team members are certified in Standard First Aid and CPR. Two members are on duty from 8:30 a.m. until 9:00 p.m., Monday through Thursday, and from 8:00 a.m. until 5:00 p.m. on Friday. The telephone number for on-campus medical emergencies is 6444.

EMPLOYMENT CENTER: The Student Employment Center, located in Suite 239 of the Garinger Building, assists students seeking part-time or full-time employment. Continuing and graduating students, as well as alumni, are assisted. Employers are encouraged to list job vacancies with the Center and students are referred to these openings according to qualifications. The Center also offers assistance in resume' preparation and interviewing techniques. Further information and assistance can be obtained from the Student Employment Center.

General Information

HOUSING

The College does not provide living accommodations for students. In all cases, students are responsible for making their own arrangements for housing.

A card file listing of available rooms and apartments is maintained in the Office of Student Activities (Taylor Hall, Room 102). Many of these accommodations are within walking distance of the College or are conveniently located to bus service. Students should be aware that the College does not verify or endorse information in this card file. A dormitory for women students is located near the main campus with room and board or room only plans are available.

INSURANCE

Central Piedmont Community College has approved for CPCC students an Accident Medical Plan.

The plan insures the student against loss resulting from accidental bodily injuries sustained while on campus or while participating in or attending an activity exclusively organized, sponsored and solely supervised by the College and College employees, including travel directly to or from such activity in a vehicle furnished by the College.

The plan pays the cost of medical and surgical treatment, including hospital confinement and the service of a trained nurse, for such treatment incurred within one year from the date of accident up to \$1,000 for each accident.

Coverage begins at the time tuition is paid when you apply for such coverage and ends at the end of that quarter.

The cost is \$1.75 per quarter and payable at the time of registration.

INTERNATIONAL STUDENTS

Central Piedmont Community College is authorized under Federal law to enroll alien students. Accordingly, a Certificate of Eligibility (Form I-20) will be issued to anyone who meets admission requirements, providing that the quota for that particular country is not filled.

Any foreign national (non-immigrant) who is seeking admittance under an F-1 student visa should contact the International Student Advisor in Kratt Hall 102. Telephone number: 704/373-6456.

Legal residents with permanent visas (Alien Registration Card holders) are admitted to Central Piedmont Community College in the same manner as native citizens of the United States of America. International visitors holding B-2 or other visas may enroll as special credit or extension students as long as they hold a valid visa.

For information about tuition charges, refer to the Catalog section on Residence Status, item #5.

LOST AND FOUND

A lost and found service is located on the second floor of the Terrell Administration Building at the Information Counter.

PARKING

The campus includes paved and well-lighted parking areas. Students may use these parking lots except for those reserved for faculty. Access to student lots is controlled by "free-in pay out" gates which operate automatically. This type of procedure requires the student to insert coins in the

appropriate receptacle on leaving a parking lot. The gate will then raise to enable the individual to leave.

As an additional protection to students, their cars must be registered each year at the fall quarter (or whenever a student first registers). Each student is given a Central Piedmont Community College sticker that is to be affixed to the rear bumper.

The **READING CLINIC** operates on a walk-in basis to provide reading assistance to students. The Clinic is located on the second floor of the Learning Resources Center and provides diagnostic and referral services for students who wish to improve their reading skills. The Clinic also provides tutoring for those in need of basic reading instruction.

The **TESTING CENTER**: The Testing Center of Central Piedmont Community College is located on the fourth floor of the Richard Hagemeyer Learning Resources Center. The Testing Center administers a wide variety of tests for instructional, placement, and special purposes.

The Center, opened in the Winter Quarter of 1981, is the College's newest "environment for learning", one of its major purposes being to help students achieve success in their instructional course work. Its physically attractive atmosphere and low-key method of operation help students, either as individuals or in small groups, reduce their anxiety about taking tests. Students will be able to take tests within time frames designated by instructors. They will have more effective reinforcement of learning through emphasis on individualized methods of instruction, quicker feedback through faster scoring of tests, and more class time available for discussion by reducing the number of classroom hours given up for testing.

The Center is intended to help improve instructional effectiveness through more uniform student assessment and evaluation. It assists faculty in test development, administration, grading, analysis, and research. It assists both faculty and students to achieve educational aims and goals and to improve student competency reflected in mastery of measurable instructional objectives.

WOMEN'S CAREER CENTER: The Women's Career Center is a women's program at Central Piedmont Community College which responds to the current needs of women in the Charlotte-Mecklenburg area. Its main purpose is to provide flexible, varied educational opportunities for women of all ages. Some of the services offered are: (1) recruitment and support for women who would like to come to CPCC for courses and/or degree programs; (2) courses, workshops, and seminars which are presented four times a year by the CPCC/Women's Career Center faculty; and (3) telephone assistance for career information for the women in Charlotte-Mecklenburg. The telephone number is 704/373-6644. In addition, through other community service organizations and agencies, the Women's Career Center offers referral assistance and support for women who need this assistance.

The Center offers its services to women students (and men, if requested) at CPCC; to women of the community who are interested in attending CPCC; to women who need help making decisions, looking for options, or solving education-related problems; and, offers help to women in need of career or job information.

SUPPORT SERVICES FOR EXCEPTIONAL STUDENTS

The College is aware that the implementation of the "open door" policy will bring to its campus students whose physical and mental abilities are relatively impaired. The College strives to assure that there are equal opportunities and accessibility to these individuals regardless of their disabilities.

The Department of Special Services is responsible for providing support services to students with disabilities. It was established in 1971 in response to continuing efforts by the College to bring to fruition its educational philosophy: "The doors of Central Piedmont Community College are open and accessible to all adults seeking to further their education." The Department of Special Services serves as the vehicle through which the College attempts to meet the needs of all its students. These support services are available to the visually impaired, hearing impaired, physically or motor impaired, learning disabled, and emotionally and mentally handicapped.

REASONABLE ACCOMMODATION: CPCC believes that a meaningful educational experience can result only when the College and the student make reasonable efforts to provide an accessible educational environment. The College is also concerned with the possibility that over-accommodation may in the long run be detrimental to the student's development. Therefore, students are encouraged to develop skills for independent living and independent action.

PRE-ADMISSION INTERVIEW AND CAMPUS VISIT: Before the student makes the final decision to enroll at CPCC, the College recommends that all disabled students plan to visit the campus to meet the specially assigned counselors and support personnel, meet and talk with other students, and make other necessary arrangements such as housing. During this interview and visit, the counselors and staff will explain the instructional methods and approaches adapted by the College and how these methods relate to the disabled student. In addition, student responsibilities and College expectations of the student will be discussed.

ASSESSMENT AND EVALUATION: A screening test and/or interview is administered to those students who demonstrate a learning difficulty. Those who demonstrate a discrepancy among the various learning areas (functions) receive a battery of diagnostic tests to determine the specific learning disability. The results of this evaluation are utilized in designing and implementing the instructional strategies, as well as counseling, tutorial, note-taking, and reader services.

Those students who are not learning disabled but who are unable to successfully complete their studies are referred to other programs which can meet their needs. Such programs may be those of career, academic, and personal counseling; study skills training; and tutorial assistance.

ARCHITECTURAL AND ATTITUDINAL BARRIERS: The facilities of CPCC are 98% barrier-free, resulting from the College's long commitment to remove such barriers. The lengthy involvement of the College in providing services to handicapped persons, as well as exposure to an experience with such students, has resulted in highly positive attitudes on behalf of the support, instructional, and administrative personnel.

BRAILLING SERVICES: Visually impaired students can request the braille of instructional support materials, such as tests and hand-outs.

COUNSELING SERVICES: Counseling is the most important service component of the entire program. The counselor is the central point in the student's educational experience and is involved in personal, social, vocational, and academic counseling. The counselor is also the main referral point for other services, assisting the instructor and determining the need for tutorial and other services.

The DISADVANTAGED STUDENT: Those students who are not able to succeed because of educational, economic, or social deprivation are able to receive the same services which are available to the exceptional student. Those students who demonstrate learning problems but are not learning disabled will be served under this category.

DOTTY: (Dial Our Tele-Typewriter) is an educational and informational community service designed for the hearing impaired. Hearing impaired individuals can call the designated College telephone number and receive on their home TTYs a short presentation in the areas of consumer, community and College information, as well as short instructional units.

INTERPRETING SERVICES: The most critical component for any program for the hearing impaired is interpreting services. The success of the student's educational experience is greatly dependent on the availability, quality, and flexibility of these services. The College maintains a number of highly qualified and certified interpreters. Certain reasonable schedule adjustments may be necessary periodically in order to accommodate all students.

NOTE-TAKING SERVICES: Those students who cannot take notes because of hearing impairment, learning disability, physical impairment, or any other condition can receive assistance in identifying and recruiting volunteer notetakers. In certain situations, paid note-takers are employed.

OPTACON TRAINING: The Optacon (**O**ptical-**T**actile **C**onverter) is an electronic device by which the visually impaired person can read regular print. The training begins during the student's first quarter, and by the time of his/her graduation, the student is able to use the Optacon on the job as well as for personal reading, such as newspapers and typed letters.

A **RADIO STUDIO** is located on the fourth floor of the Learning Resources Center. Educational programs, newspapers and magazines are broadcast via FM subcarrier (SCA) to individuals who cannot read ordinary print matter.

The Hagemeyer Learning Resources Center also houses the J.N. Pease Auditorium and Conference Room.

TELETYPE: For hearing impaired students, the TTY permits direct communication by telephone with the College. The TTY is also used to help hearing impaired students develop skills in this method of communication.

TUTORIAL SERVICES: Tutorial services are provided as a supplement to regular class work and not in place of class attendance. Any student receiving tutorial services must attend classes regularly.

Finances

Since the College receives financial support through local, state and federal sources, tuition is very low. Tuition charges are set by the North Carolina State Board of Education and are subject to change without notice. For in-state students registered for credit courses, tuition and fees are as follows:

TUITION

ASSOCIATE IN ARTS
ASSOCIATE IN FINE ARTS
ASSOCIATE IN APPLIED SCIENCE
ASSOCIATE IN GENERAL EDUCATION
DIPLOMA CURRICULA

Students enrolled for 12 quarter hours or more — \$39.00 per quarter. Students enrolled for fewer than 12 hours — \$3.25 per quarter hour. An \$8.00 registration fee is charged for non-credit courses in the Continuing Education Program. There is no charge for individuals taking extension courses leading to a high school diploma or its equivalent. Self-supporting courses are charged for at the rate of 85¢ per contact hour. Tuition and the student publication and activity fee (\$1.00) must be paid at registration.

Out-of-state students will pay tuition each quarter as described below (Academic years 1980-82):

Students enrolled in 12 quarter hours or more — \$198.00 per quarter.

Students enrolled in fewer than 12 quarter hours — \$16.50 per quarter hour.

FEES

Student Publication and Activity Fee — \$1.00 per quarter.

RESIDENCE STATUS

A legal resident of North Carolina is one who has domicile in this State. It is important that all applicants for admission and all enrolled students know their residence status for tuition payment and understand the regulations governing status. The "Student Residence Manual" is available for review in the Office of Student Records. The following regulations cover most factual situations.

1. Persons eighteen years of age or older are not deemed eligible for the lower tuition rate unless they have maintained legal residence in North Carolina for at least the twelve months next preceding the date of their enrollment in an institution of higher education in this State.
2. The legal residence of a person under eighteen years of age at the time of enrollment in an institution of higher education in this State is that of the student's

parents, surviving parent or legal guardian. If the parents are divorced or legally separated the legal residence of the minor is that of the parent to whom legal custody has been awarded. If custody has been awarded to one parent, the domicile of the minor is that of the parent with whom the minor lives.

3. The residence status of all students is determined as of the time of their enrollment in an institution of higher education in North Carolina and may not thereafter be changed except: (A) in the case of a nonresident minor student of the time of enrollment whose parents have subsequently established legal residence in North Carolina; (B) in the case of a resident who abandons legal residence in North Carolina; and (C) in the case of a nonresident student at the time of enrollment who has established legal residence in North Carolina and has maintained that status for the preceding twelve months.
4. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rate unless they have maintained a legal residence in the State for at least the twelve months next preceding the date of enrollment in an institution of higher education in this State.

5. Aliens who have been lawfully admitted to the United States for permanent residence in North Carolina, according to the above paragraphs numbered 1, 2, and 4 are eligible for the lower tuition rate. A person holding a student visa cannot be classified as a resident for tuition purposes.

Foreign nationals holding an Alien Registration Card (Form I-151) and other foreign non-immigrants holding work permits (Visas A, E, G, I, K, or L-1), as well as Southeast Asian Refugees, may be eligible for in-State tuition twelve months or more after their visa was issued. In these cases, they must provide documenting evidence that they have lived in North Carolina for at least 12 consecutive months (i.e., a statement from Southern Bell indicating that they have had a telephone in their name at their place of residence for at least 12 months, a statement from their employer that they have lived and worked in North Carolina for at least 12 months, or other acceptable documentation).

6. Ownership of property in or payment of taxes to the State of North Carolina apart from legal ownership will not in itself qualify a person for the lower tuition rate. Please note: any student or prospective student in doubt concerning residence status must bear the responsibility for securing a ruling by stating their case in writing to the Office of the Director of Student Records. Students who feel they have met the residence requirements must contact the Director of Student Records for approval and for completion of the proper change of residence form.

REFUND POLICY

Two-thirds of the tuition paid by a student will be refunded if the student withdraws from the College within ten calendar days after the first day of classes as published in the College calendar. If a student voluntarily withdraws from any classes while remaining enrolled in the College, no refund will be received for courses dropped. If a class is cancelled by the College, tuition will be refunded on a prorated basis. Class changes approved by the Office of student Development during the registration and schedule adjustment periods are adjusted in full.

The activity-publication fee is not refundable. Tuition refunds of \$5.00 or less will not be made except for classes cancelled by the College.

FINANCIAL AID

Students who are enrolled or accepted for enrollment in at least a six-month program leading to a certificate, diploma or degree may apply for financial assistance. Individuals who are not U.S. citizens or who are non-permanent residents are generally not eligible to receive financial aid. Check with the Financial Aid Office for determination of eligibility.

In considering an applicant for aid, the student's entire living expenses are taken into account, not just tuition and book costs. Students taking fewer than 12 credit hours but at least 6 credit hours may receive aid reduced in proportion to their academic load. Awards generally range from \$50 to \$4,000 per year and come from one or more of the following sources:

1. Pell Grants (formally BEOG or Basic Grants)
2. Supplemental Educational Opportunity Grants (SEOG)
3. North Carolina Student Incentive Grants
4. Local Scholarships
5. The College Work-Study Program
6. Nursing Loans
7. National Direct Student Loans
8. Guaranteed Student Loans
9. Emergency Short-Term Loans

Pell Grants and employment through the College Work-Study program comprise the great majority of aid awarded to students.

Because Central Piedmont Community College defines its academic year as 12 months, financial aid awards are made on that basis. Students are encouraged (in some cases required) to attend consecutive quarters until the program of study is completed in order to remain in proper sequence. The Summer Quarter is a full quarter with no significant reduction in course offerings and is not regarded to be "optional" as summer periods often are at traditional institutions.

For more detailed information about the types of aid available, eligibility, application procedures, and policies, refer to the **Student Financial Aid** brochure, which is published annually. Brochures are available from the Financial Aid Office upon request.

SATISFACTORY PROGRESS: To remain eligible to receive Title IV financial aid funds, students must meet the College definition of SATISFACTORY PROGRESS. This definition reads:

"Satisfactory Progress is defined as the satisfactory completion of either a minimum of six credit hours per quarter or 50% of the credit hours carried (whichever is less) within the number of quarters required for completion of a student's particular curriculum as outlined in the CPCC catalog plus three (3) additional quarters."

Any quarter during which a student registers, receives financial aid, and does not withdraw within the first ten days of class shall be counted. At the end of the number of quarters required to complete a particular curriculum plus the additional three quarters (allowed for excessive IR's, program change, remedial courses, etc.), the PELL (Basic) grant and all campus-based aid will be discontinued. (NCSIG and GSLP are not affected by the time limitation, but recipients must be enrolled in good academic standing). This definition affects only eligibility for financial aid and is not applicable for purposes of continued enrollment in a program, since such determination will be made by the College in accordance with institutional policy.

Aid recipients who fail to meet this standard will not be eligible for assistance. Students whose aid has been terminated because of failure to maintain good academic standing may be reconsidered for aid when their progress is again satisfactory. Students with extenuating circumstances may use the APPEAL PROCESS outlined below.

FIRST DEGREE WAIVER: Generally, students who have already earned a degree from CPCC are not funded for the pursuit of a second degree. However, students may appeal to the Financial Aid Committee for consideration according to the APPEAL PROCESS outlined below.

APPEAL PROCESS: Students who fail to meet the definition of satisfactory progress or other aid policies and who have extenuating circumstances may appeal to the Financial Aid Committee for reinstatement. The appeal must be in writing and will be voted on at a regularly scheduled meeting.

TYPES OF ASSISTANCE

North Carolina Student Incentive Grants: Legal residents of North Carolina accepted for enrollment or enrolled full-time, in good standing, in an undergraduate program of study in an eligible college, university, technical or vocational school in North Carolina may apply for Student Incentive Grants to help pay their educational expenses. Students must demonstrate "substantial financial need" as determined through the need analysis system of either the College Scholarship Service or American College Testing Program. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education but may not exceed \$1,500 per academic year. Students must apply before March 15.

PELL GRANTS: The Pell Grant Program provides federal funds for qualified students enrolling at least half-time in a program which is at least six months long in an eligible institution of higher education. The grants, which do not have to be repaid, are based on schedules and formulae approved by Congress annually. The maximum grant at Central Piedmont Community College is approximately \$800 per year for in-State residents and \$1,050 for out-of-State residents. Students with bachelor's degrees are not eligible.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS: The Supplemental Educational Opportunity Grant Program provides gift aid to students with demonstrated financial need. The amount of the grant is based upon the applicant's need and availability of funds at the College. These grants do not have to be repaid. Students with bachelor's degrees are not eligible.

THE COLLEGE FOUNDATION, INC. LOAN FUNDS: The College Foundation, Inc., Raleigh, North Carolina, administers several loan funds, including the Guaranteed Student Loan Program. Legal residents of North Carolina who are attending at least half-time at an institution of higher education are eligible to apply. Independent students and dependent students may borrow up to \$2,500 per year. The Federal Government will pay the 9% interest on the loan while the student is in school and before repayment begins for students who qualify for federal interest benefits. The minimum repayment is \$50.00 per month, plus interest, and the loan must be repaid within 10 years. Applications may be obtained from the Financial Aid Office.

EMERGENCY SHORT-TERM LOANS: A limited amount of money is available to assist students in emergency situations. Assistance of this type is generally limited to \$50, or tuition and fees, whichever is less, and must be repaid within 90 days.

NATIONAL DIRECT STUDENT LOAN PROGRAM: Central Piedmont Community College participates in the National Direct Student Loan Program. This program makes funds available to students who are taking at least a half-time schedule in one of the diploma or degree programs and who need a loan to meet educational expenses.

The National Direct Student Loan Program makes provisions for students to borrow up to \$2,500 during their first two years of college. Repayment begins six months after the borrower ceases to pursue a course of study at an institution of higher learning, and 5% interest per year is charged on the unpaid balance.

NURSING STUDENT LOAN PROGRAM: The Nursing Student Loan program assists students who need financial aid to pursue a course of study leading to an associate degree in nursing. The goal is to increase the opportunities for individuals seeking careers in nursing by providing long-term, low-interest loans to students who are in need of such assistance. The maximum Nursing Student Loan available to an individual borrower in a 12-month period is \$2,500.

SCHOLARSHIPS: Students do not usually apply for specific scholarships at Central Piedmont Community College. All qualified applicants are considered for available scholarships. The total value of a scholarship awarded to a student is payable in amounts prorated to each quarter of the College year. Awards are based upon financial need and/or academic proficiency. An award for the second year may be made upon approval of a new application and continued satisfactory academic performance. A complete listing of the scholarship donors is to be found in the **Scholarship and Short Term Loan Fund** brochure.

THE COLLEGE WORK-STUDY PROGRAM: A major form of financial aid available to students consists of employment through the College under the Federal College Work-Study Program. A schedule is arranged so that students work part-time around their classes either on-campus, at Learning Centers, or at a non-profit agency in the Charlotte-Mecklenburg area. The hourly pay rate is equal to at least the federal minimum wage.

FINANCIAL ASSISTANCE FOR VETERANS AND OTHER ELIGIBLE PERSONS

The College provides educational opportunities for veterans, disabled veterans and eligible persons (spouse and/or dependents) of deceased or disabled veterans, those missing in action, and prisoners of war on both the college and high school levels. For additional information regarding these benefits which are administered by the Veterans Administration, persons should contact one of the following offices: the County Veterans Service Office, the District Office of the North Carolina Department of Veterans Affairs, the College Office of Veterans Affairs, or the Veterans Administration Regional Office, Winston-Salem, N.C.

The College also assists recipients of North Carolina Veterans Commission Scholarships. Students seeking these scholarships should contact the state office, district office, or the College Office of Veterans Affairs.

ACADEMIC REQUIREMENTS, REPORTING PROCEDURES AND RECORDS:

1. **Academic Requirements:** The Veterans Administration has determined that the College has a "non-punitive" grading policy for veteran benefit purposes. This means a veteran/eligible person must pass required program courses for VA benefits unless there are mitigating circumstances acceptable to VA. Grades that are excluded from calculation in graduation requirements are prohibited under this policy.

Class attendance is necessary. "Full-term" attendance is expected through the last scheduled class session of the quarter. CPCC instructors are required to report promptly the **last date of attendance**.

2. **Reporting Procedures—** Guidelines in reporting requirements to VA:
 - a. Veterans will not be penalized for official drops or withdrawals during a VA-established drop/add period of 30 calendar days.

- b. Pay adjustments for unofficial drops at any time, and official drops or withdrawals for 30 days, will be retroactive to the first day of the quarter unless there are mitigating circumstances acceptable to VA.
 - c. Pay adjustments for **"never attended"** will be retroactive to the first day of the quarter or the last day of the previous enrollment, whichever is applicable.
 - d. No pay will be awarded for any IM, IR, or W unless there are mitigating circumstances acceptable to VA.
 - e. Documentation may/will be required by VA for any mitigating circumstances.
 - f. Any overpayments will have to be repaid to VA.
3. **Mitigating Circumstances** — some examples acceptable to VA:
- a. Demonstrated "good faith" pursuit.
 - b. Evidence of receipt of tutorial, advisor or counseling assistance.
 - c. Accident, illness or death (personal or immediate family).
 - d. Military, National Guard or Reserve duty training.
 - e. Job conflict or financial problems requiring changes in employment, class schedule adjustment or drops which precluded satisfactory pursuit of course.
 - f. This list is not all-inclusive according to VA.
4. **For All Veterans:** Veterans are responsible for notifying the College OVA and VA immediately of any change in their student status, such as drop/ adds, stopped attendance, withdrawal, program changes, or graduation. All status changes and course-load adjustments for non-attendance (never, lack of) will be reported to VA promptly. There will be no reinstatements for non-attendance for the quarter in which it was reported, unless there are mitigating circumstances. For further information contact the College Office of Veteran Affairs.

5. **Degree and Diploma Veterans Faculty:** instructors are required to submit "CPCC Veterans Exceptional Reports" to the College Office of Veterans Affairs immediately after the student has missed two consecutive weeks or stops attending before the end of the term.

6. **Diploma Veterans:** Diploma veterans (trade, adult high school, and GED) are required to turn in attendance sheets each month. They are due no later than the fifth of the following month and the last day of each quarter. Failure to turn in this report will result in prompt termination of benefits.

Faculty are required to submit "CPCC Veterans Exceptional Reports" to the College Office of Veterans Affairs immediately after a student has missed two consecutive weeks or stops attending class before the end of the term.

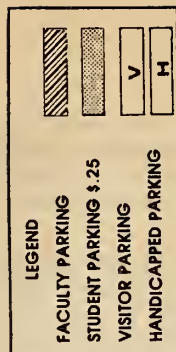
Records: "Records of Progress" are kept by this Institution on veteran and non-veteran students alike. Progress records are furnished to the students, veterans and non-veteran alike at the end of each scheduled school term."

Veterans as Regular Students: Veterans may attend CPCC as regular students regardless of their VA benefit status.

SEE OTHER INFORMATION IN THE CATALOG CONCERNING ALL STUDENTS

SOCIAL SECURITY ADMINISTRATION AND OTHER GOVERNMENT AGENCY BENEFITS PROGRAMS

The College provides advisement and certification services for students (adult basic, high school and college levels) who are eligible for Social Security, Civil Service, Railroad Retirement, N.C. National Guard Tuition Assistance, Active Military Personnel Tuition Assistance, and Armed Forces Reserve benefits. Students seeking assistance under these programs should contact the respective agency or the College Office of Veterans Affairs.



EMERGENCY ON CAMPUS	6444	FINANCIAL AID - 503 Terrell	373-6942	PUBLIC INFORMATION OFFICE - 306 Terrell	373-6666
ABE (Adult Basic Education) - 405 Terrell	373-6864	FOREIGN STUDENT ADVISOR - 129 Mecklenburg	373-6456	REGISTRATION - 2nd floor Garlinger	373-6940
ADMISSIONS - 2nd floor Terrell	373-6687	GYM (Multi-Purpose Room) - 1st floor Taylor Hall		STUDENT ACTIVITIES - 1st floor Taylor Hall	373-6584
BOARD ROOM - 3rd floor Terrell		HSC (High School Completion) - 405 Terrell	373-6698	STUDENT EMPLOYMENT - 239 Garlinger	373-6448, 6551
BOOKSTORE - 1st floor Garlinger	373-6587	INFORMATION - 2nd floor Terrell	373-6633	TELECOURSE CENTER - 1st floor Learning Resource Center	373-6422
CAFETERIA - Central Room	332-4598	LIBRARY CIRCULATION - 2nd floor Learning Resource Center	373-6885	TESTING CENTER - 4th floor Learning Resource Center	373-6886
COUNSELING - 2nd floor Terrell	373-6687	MUSIC HALL - 1st floor Music Bldg.		TRANSCRIPTS - 2nd floor Terrell	373-6959
DENTAL ASSISTING CLINIC - 1st floor Career Education	373-6533	PARKING STICKERS/I.D.s - 202-E Garlinger	373-6648	TUITION/FEE PAYMENT - 1st floor Terrell	373-6964
DENTAL HYGIENE CLINIC - 1st floor Career Education	373-6704	PEASE CONFERENCE ROOM - 1st floor Learning Resource Ctr.			
DROP / ADD / WITHDRAW - 2nd floor Garlinger	373-6940	PRESIDENT/EXEC. VP OFFICES - 3rd floor Terrell	373-6566, 6730		

CPCC is an EEO/AA Institution

Career Programs

The following list of programs provides a wide range of subjects for consideration by students. Programs are listed by general title with sub-titles when fields of specialization are offered.

Fields of specialization are specific areas of study within a program. For example, the Business Administration student has the option to concentrate in the fields of Banking and Finance, Business Management, Postal Service Management, or Real Estate.

The suggested sequence of courses in each program is listed showing the class hours (CLS), laboratory hours (LAB), clinic hours (CLN), and quarter hours credits (QTRS-HRS-CR) involved.

Minimum Length of Study

Associate of Arts, Associate of Fine Arts, Associate of Applied Science	2 year
Diploma	1 year
Certificate	less than 1 year

For a description of courses, turn to the Course Descriptions section. Listings there are arranged alphabetically by 3-letter prefixes.

Accounting

Accounting is often called the "language of business." It is the language employed to communicate financial information and to report operating results. The accounting profession is important to the complete spectrum of economic enterprise, ranging from governmental units to small private businesses. Accounting is required in all forms of business operations including sole proprietorships, partnerships and corporations. Positions are available to accountants in general accounting, auditing, payroll accounting, tax accounting and other specialized areas such as accounts receivable, accounts payable, and general assets.

DESCRIPTION OF CURRICULUM

The Accounting curriculum is designed to provide sound academic training in the interpretation and accumulation of accounting data. The student learns to perform such duties as maintaining journals and ledgers, preparing financial statements, making special reports and analyses, preparing cost data and summarizing tax information. The Associate in Applied Science Degree in Accounting will be awarded upon successful completion of this curriculum. Students interested in transferring to a senior institution should enroll in the mathematics and communications options listed in the footnotes.

Suggested Sequence of Required Courses for the Accounting Program

COURSE TITLE		QTR			COURSE TITLE		QTR		
		HRS/WK	HRS				HRS/WK	HRS	
FIRST QUARTER		CLS	LAB	CR	SECOND QUARTER		CLS	LAB	CR
BUS 1400	Introduction to Business	3	2	4	BUS 2304	Business Law I	3	0	3
ACC 1604	Principles of Accounting I	5	2	6	ACC 1605	Principles of Accounting II	5	2	6
COM1304	Introduction to Communication	3	0	3	*FIN 3315	Business Mathematics II	3	0	3
*FIN 3314	Business Mathematics	<u>3</u>	<u>0</u>	<u>3</u>	†COM3305	Communications II	<u>3</u>	<u>0</u>	<u>3</u>
				16					15
THIRD QUARTER					FOURTH QUARTER				
BUS 2305	Business Law II	3	0	3	ACC 2627	Intermediate Accounting II	5	2	6
ACC 2626	Intermediate Accounting I	5	2	6	ECO 2305	Economics II (or Elective)	3	0	3
ECO 2304	Economics I	3	0	3	SPH 1300	Oral Communications	3	0	3
†COM3306	Communications III	3	0	3	FIN 4334	Business Finance I	3	0	3
‡	Electives	<u>3</u>	<u>0</u>	<u>3</u>	EDP 3300	Introduction to Computer Concepts	<u>3</u>	<u>0</u>	<u>3</u>
				18					18
FIFTH QUARTER					SIXTH QUARTER				
FIN 4335	Business Finance II	3	0	3	ACC 4444	Cost Accounting	3	2	4
ACC 4447	Advanced Accounting	3	2	4	ACC 4404	Auditing	3	2	4
ACC 4425	Taxes—Business and Fiduciary	3	2	4	EDP 4314	Systems & Procedures	3	0	3
EDP 2306	Computer Programming I	2	2	3	BUS 3300	Human Relations in Business	3	0	3
	Electives	<u>3</u>	<u>0</u>	<u>3</u>		Electives	<u>3</u>	<u>0</u>	<u>3</u>
				17					17

Our students average 32½ years in age. Two out of three fit college around jobs. Slightly more attend at night than during the day.

*MAT 1504, 1505 or MAT 1514 may be taken if student has met placement test requirements.

†COM 1305 and 1306 are recommended for students who may later decide to transfer to a senior institution.

‡SEC 3404 Typing I required of students in third quarter if they have not had one year of high school typing.

Advertising Design

The Advertising Design field is highly competitive and challenging for the artist and offers careers combining business and creative abilities.

The Advertising Design program prepares students to enter the diverse field of Communications Art, traditionally known as "Commercial Art." The skills of the artist, both visual and technical, are directed toward the production of effective advertising, design, and promotional solutions. Advertising agencies, art studios, newspapers, printers, large corporations and businesses require the services of these artists.

DESCRIPTION OF CURRICULUM

The first three quarters of the Advertising Design program emphasize the development of basic skills and knowledge in the use of art media in drawing and design.

The last three quarters of the Advertising Design program provide students with fundamental knowledge and skills in layout, graphic design and print production. The program provides instruction and experience in typography, illustration, photography, copywriting, offset printing and sales development. It aims at providing students with a blending of artistic skills with that of business and marketing.

All students are expected to carefully produce a portfolio of work in preparation for entering this job market.

Suggested Sequence of Required Courses for the Advertising Design Program

COURSE TITLE				QTR			COURSE TITLE				QTR				
				HRS/WK	CLS	LAB	CR					HRS/WK	CLS	LAB	CR
FIRST QUARTER							SECOND QUARTER								
ART	1300	Introduction to Art I		3	3	3		ART	1301	Introduction to Art II		3	0	3	
ART	1304	General Drawing I		0	6	3		ART	1305	General Drawing II		0	6	3	
ART	1324	Design I		0	6	3		ART	1384	Basic Camera Techniques		3	0	3	
VCO	4100	Seminar I		1	0	1		DFT	3300	Advertising Drafting		2	4	3	
FIN	3314	Business Mathematics I		3	0	3		VCO	4101	Seminar II		1	0	1	
COM	1304	Introduction to Communications		3	0	3		COM	3305	Communications II		3	0	3	
						16								19	
THIRD QUARTER							FOURTH QUARTER								
ART	1385	Photo Lab Process I		1	4	3		VCO	4304	Typography & Lettering I		2	2	3	
ART	1326	Design III		0	6	3		ADV	4304	Advertising Studio I		2	2	3	
ART	1306	General Drawing III		0	6	3		VCO	4414	Advertising Production I		3	2	4	
MKT	4321	Advertising		3	0	3		ADV	1300	Photography for Advertising		1	4	3	
MKT	3320	Fundamentals of Selling		3	0	3				General Elective		3	0	3	
				3	0	3								16	
						18									
FIFTH QUARTER							SIXTH QUARTER								
VCO	4324	Copywriting I		3	0	3		VCO	4325	Copywriting II		3	0	3	
VCO	4305	Typography & Lettering II		2	2	3		ADV	4306	Advertising Studio III		2	2	3	
ADV	4305	Advertising Studio II		2	2	3		VCO	4416	Advertising Production III		3	2	4	
VCO	4415	Advertising Production II		3	2	4		ADV	4204	Advertising Thesis		0	4	2	
VCO	3301	Illustration		2	2	3		ADV	4214	Professional Practices & Procedures		3	0	3	
				3	0	3		PRN	5364	Fundamentals of Offset Printing		1	4	3	
						19								18	

Suggested Sequence of Required Courses for the Air Conditioning, Heating and Refrigeration Program

NOTE: Students are expected to furnish tools for selected courses. A list of these tools can be obtained by contacting one of the instructors or the counselor for this program.

COURSE TITLE						QTR			COURSE TITLE						QTR						
						HRS/WK	HRS								HRS/WK	HRS					
						CLS	LAB	CR							CLS	LAB	CR				
FIRST QUARTER																					
AHR	5301	Introduction to Automatic Controls				3	0	3	AHR	5313	Refrigeration Service Prin.				2	3	3				
AHR	5401	Basic Calculations for A/C, Heating & Refrigeration Mechanics				4	0	4	AHR	5314	Automatic Controls				2	3	3				
AHR	5411	Refrigeration Theory				4	0	4	AHR	5321	Commercial Refrigeration Installation				2	3	3				
AHR	5412	Refrigeration Shop Practice				2	6	4	AHR	5322	Commercial Refrigeration Service				2	3	3				
PHY	5304	Shop Science I				2	2	3	AHR	5323	Oil Burners				2	3	3				
								18	AHR	5333	Liquid Heat-1-Pipe and 2-Pipe Systems				2	3	3				
THIRD QUARTER																					
AHR	5200	Solar Domestic Hot Water Installation				1	3	2	FOURTH QUARTER												
AHR	5204	Wiring Diagrams & Trouble-Shooting for A/C Systems				1	3	2	AHR	5324	A/C, Heating & Refrigeration Blueprint Reading				3	0	3				
AHR	5431	Air Conditioning-Residential/Commercial				3	3	4	AHR	5341	Gas Heat				2	3	3				
AHR	5444	All Weather Systems-Heat Pumps				2	6	4	AHR	5342	Electric Heat				2	3	3				
COM	5500	Communications Skills				5	0	5	AHR	5394	Mechanical Codes				3	0	3				
								17	AHR	5443	All Weather Systems-Conventional				3	3	4				
									WLD	5210	Basic Oxyacetylene Welding				1	3	2				
						</															

Career Programs

THIRD QUARTER

AHR 5200	Solar Domestic Hot Water Installation	1	3	2
AHR 5204	Wiring Diagrams & Troubleshooting for A/C Systems	1	3	2
AHR 5324	A/C, Heating & Refrigeration Blueprint Reading	3	0	3
AHR 5431	Air Conditioning-Residential/Commercial	3	3	4
AHR 5444	All Weather Systems—Heat Pumps	2	6	4
COM 1304	Introduction to Communications	3	0	3
				18

FIFTH QUARTER

AHR 4325	A/C, Heating & Refrigeration Drawing & Sketching	1	4	3
AHR 4451	Commercial Refrig. Systems Design	4	0	4
AHR 4452	Residential A/C Systems Design	3	2	4
AHR 4453	Commercial A/C Design	3	2	4
COM 3306	Communications III	3	0	3
				18

SEVENTH QUARTER

AHR 4304	Introduction to Psychrometrics	3	0	3
AHR 4373	Hydronic Systems Balance	2	2	3
AHR 4372	Hydronic Distribution Systems Design	3	0	3
AHR 4471	Installation & Serv. Problems	2	6	4
*	Elective — AHR			2
†	Elective — General Education			3
				18

FOURTH QUARTER

AHR 5341	Gas Heat	2	3	3
AHR 5342	Electric Heat	2	3	3
AHR 5394	Mechanical Codes	3	0	3
AHR 5443	All Weather Systems—Conventional	3	3	4
COM 3305	Communications II	3	0	3
				16

SIXTH QUARTER

AHR 4361	Residential Air Distribution & Balance	2	2	3
AHR 4462	Commercial Air Distribution & Balance	3	2	4
AHR 4463	Control Systems	3	2	4
ECO 3300	Introduction to Economics	3	0	3
	Elective—General Education	3	0	3
				17

RECOMMENDED ELECTIVES

*AHR ELECTIVES:

AHR 4382	Air Conditioning Estimates & Contracts	3	0	3
AHR 4490	Solar Heating & Cooling Systems I	4	0	4
AHR 4491	Solar Heating & Cooling Systems II	4	0	4
AHR 5594	Duct Design I-Rectangular Duct	3	6	5
AHR 5495	Duct Design I-Round Duct	3	3	4
MAC 5201	Machine Shop Practices	1	3	2
WLD 5220	Basic Electric Arc Welding	1	3	2
WLD 5250	Basic Gas Metal Arc Welding	1	3	2
WLD 5210	Basic Oxyacetylene Welding	1	3	2

†GENERAL EDUCATION ELECTIVES:

SPH 1300	Oral Communications	3	0	3
SPH 2304	Public Speaking	3	0	3
PSY 2504	General Psychology	5	0	5
SOC 1301	Group Interaction	3	0	3

Architectural Technology

Architectural Technology involves the planning, design, and construction of buildings. Architectural technicians perform many of the planning and supervisory tasks necessary to communicate the architect's designs to the builder.

DESCRIPTION OF CURRICULUM

The Architectural Technology curriculum is a comprehensive program providing a basic background with classroom and laboratory experiences in the practical application of both fundamental and specialized architectural technology principles.

Courses in architectural drafting and architectural technology, complemented by courses in mathematics, physics, and communications, give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized courses that furnish concentrated study in the practical application of technological knowledge and skills needed in today's building construction industry. The program is designed to produce architectural technicians with sound knowledge and skills in architectural drafting, commercial drafting, mechanical/electrical/plumbing drafting, structural drafting, architectural working drawings, blueprint reading and specifications, construction materials and methods, architectural-mechanical equipment, codes and contracts, steel and timber design, reinforced concrete design, and construction estimates.

CAREER OPPORTUNITIES

The large and varied building construction industry provides excellent opportunities for the individual with ability and training. Graduates from the Architectural Technology program may work with registered architects, engineers, construction supervisors and other qualified technicians in the preparation of complete and accurate working drawings, details, and specifications. Architectural technicians will be informed on the building industry, the operation of an architect's office, building codes, methods and materials of construction and contract documents. Typical employment available to graduates includes architectural drafter, estimator, project coordinator, planner, field inspector, salesperson, and many other architectural positions.

Upon gaining sufficient experience, graduates may advance to positions of responsibility such as job captain or project manager. With enough experience the graduate is eligible to take the examination to become a registered architect. Initial employment possibilities exist with architectural and engineering firms, private utilities, contractors, and municipal governments.

Upon completion of the program, an Associate of Applied Science (A.A.S.) degree in Architectural Technology will be awarded. For more information contact the Architectural Technology Program Director (704) 373-6548 or the Technology Division Head (704) 373-6557, or write to them.

Suggested Sequence of Required Courses for the Architectural Technology Program

		QTR		
COURSE TITLE		HRS/WK	HRS	
FIRST QUARTER		CLS	LAB	CR
ARC 3334	Architectural Drafting I: Basic & Residential	1	6	3
CIV 3504	Surveying I	3	6	5
MAT 3507	Engr. Tech. Math I	5	0	5
COM 1304	Introduction to Communication	<u>3</u>	<u>0</u>	<u>3</u>
				16

THIRD QUARTER				
ARC 3336	Architectural Drafting III: Commercial A	1	6	3
CIV 3514	Statics	3	6	5
CIV 3306	Construction Materials & Methods	2	3	3
MAT 3509	Engr. Tech. Math III	5	0	5
				16

FIFTH QUARTER				
ARC 4338	Architectural Drafting V: Mech., Elec., & Plumbing	1	6	3
CIV 4427	Steel & Timber Design	3	3	4
CIV 4302	Plain Concrete	1	6	3
PHY 1405	Physics II: Elastic & Thermal Properties of Matter	3	2	4
†	Technical Electives	—	—	2
				16

SEVENTH QUARTER				
ARC 4340	Architectural Drafting VII: Working Drawings	1	6	3
CIV 4305	Construction Estimates	2	3	3
PHY 1406	Physics III: Electricity & Magnetism	3	2	4

Since 1964, over 6,800 people have earned their high school diplomas by taking classes at CPCC with the diplomas awarded by the Charlotte-Mecklenburg School System.

		COURSE TITLE	QTR		
			HRS/WK	HRS	
SECOND QUARTER			CLS	LAB	CR
ARC	3335	Architectural Drafting II: Site Planning & Commercial	1	6	3
MAT	3508	Engr. Tech. Math II	5	0	5
PHY	1404	Physics I: Basic Mechanics	3	2	4
ARC	4200	Architectural Blueprint Reading & Specifications	1	3	2
COM	3305	Communications II	3	0	3
†		Technical Elective	<u>3</u>	<u>0</u>	<u>3</u>
					17

FOURTH QUARTER				
ARC 4337	Architectural Drafting IV: Commercial B	1	6	3
CIV 3524	Strength of Materials	3	6	5
ARC 4300	Architectural Mechanical Equipment	2	3	3
CIV 4300	Codes & Contracts	2	3	3
EDP 3405	Microcomputer Programming: Basic	3	2	4
				18

SIXTH QUARTER				
ARC 4339	Architectural Drafting VI: Structural	1	6	3
CIV 4434	Reinforced Concrete Design	3	3	4
SPH 1300	Oral Communications	3	0	3
†	Technical Elective	3	0	3
*	General Education Elective	3	0	3
				16

†SUGGESTED TECHNICAL ELECTIVES:

ARC 3200	Introduction to Architecture
ARC 3210	Design Your House Plans
ARC 3301	Build Your Home
ARC 3302	Home Construction Methods & Details
ARC 3312	Residential Working Drawings
ARC 4302	Architectural Model Construction
ARC 4310	Energy Efficient/Solar Home Design
ARC 4345	Architectural Presentation Drawing I
ARC 4346	Architectural Presentation Drawing II

Total Quarter Credits Required

*General Education Electives must be chosen from the areas of Communications, Social Science, and/or Humanities (Art, Drama, Music, Literature, Language and Philosophy)

Associate Degree Nursing

Following completion of this Associate Degree program, the graduate is capable of applying the nursing process to assess client needs and to plan, implement, and evaluate nursing care for individual clients as well as a group of clients with common health problems who require nursing care. This graduate nurse is prepared to practice in general duty nursing positions in hospitals and comparable settings, possessing the ability to work effectively with peer groups and other members of the health care team. The graduate is eligible to write the qualifying examinations leading to licensure as a Registered Nurse. Students are admitted to the Associate Degree Nursing Program in the Fall Quarter. Admission is based upon satisfactory scores on specific entrance tests, personal interviews, and evidence of good physical and mental health. Completion of a high school course in chemistry or its equivalent is required. Applicants must submit a completed high school transcript or other evidence of the attainment of the equivalency of a high school education.

DESCRIPTION OF CURRICULUM

The degree Associate in Applied Science in Nursing will be awarded upon successful completion of this curriculum. The educational program consists of nursing theory and practice interwoven with general education subjects such as the basic sciences, social sciences, and English. These classes meet on the College campus, and nurses are in classes with other College students. Nursing experiences with clients are planned in the up-to-date facilities of Charlotte Memorial Hospital and Medical Center and in other community health agencies. Clinical experiences are carefully selected for educational purposes and include the care of clients with medical, surgical and psychiatric problems, and the care of mothers, infants and children.

The Auto-Tutorial method is used for the instruction of nursing theory. This method allows students to learn each week's work at their own pace and at a time that is personally convenient. Individual learning takes place in the Health Auto-Tutorial Laboratory. Group and instructor interaction occur during general and small assembly sessions. Periodic testing on attainment of stated behavioral objectives is conducted, and the student is expected at the end of each quarter to have mastered satisfactorily the theory and clinical content of the particular course in which that student is enrolled.

Sequence of Required Courses for the Associate Degree Nursing Program

COURSE TITLE					COURSE TITLE				
FIRST QUARTER					SECOND QUARTER				
NUR 3704	Fundamentals of Nursing I	3	4	6	*NUR 3805	Fundamentals of Nursing II	3	4	9
BIO 1504	Anatomy & Physiology I	3	4	0	BIO 1505	Anatomy & Physiology II	3	4	0
PSY 2504	General Psychology	5	0	0	*NUR 3305	Nutrition for Nurses	3	0	0
THIRD QUARTER					FOURTH QUARTER				
NUR 3806	Care of the Adult Client I	3	4	9	NUR 3905	Care of the Adult Client II	3	4	12
BIO 1503	Microbiology	3	4	0	†PSY 2514	Abnormal Psychology	5	0	0
SOC 2514	Introduction to Sociology	5	0	0	COM1304	Introduction to Communication	3	0	0
FIFTH QUARTER					SIXTH QUARTER				
*NUR 4314	Mental Health Nursing A	1	2	3	#NUR 4315	Mental Health Nursing B	1	2	3
*NUR 4714	Maternal-Neonatal Nursing	2	4	9	#NUR 4715	Nursing of Children	2	4	9
COM1305	English Composition II	3	0	0	COM1306	English Composition III	3	0	0
‡	Elective	3	0	0	‡	Elective	3	0	0
SEVENTH QUARTER									
NUR 4906	Advanced Care of the Adult Client	3	4	12					
NUR 4304	Nursing Perspectives	3	0	0					

*NUR 3805 and NUR 3305 must be taken during the same quarter.
†PSY 2514 must be taken after entering the nursing program.
*NUR 4714 first eight weeks of quarter; NUR 4314 last three weeks of quarter.
‡Electives must be approved by Division Head. One elective shall be from the areas of Sociology, Psychology, Anthropology, Economics, Political Sciences or History. All electives shall be from the College Transfer offerings.
#NUR 4315 first three weeks of quarter; NUR 4715 last eight weeks of quarter.

Automotive Body Repair

The field of automotive body repair and painting requires a large number of well-trained people to meet the growing demand for the many skills needed in this area of employment. People with a background of knowledge and skill in this field have excellent opportunities for jobs with good salaries. Many of these people, after gaining additional experience, go on to open their own businesses or become auto body shop supervisors or managers.

DESCRIPTION OF CURRICULUM

This curriculum provides the opportunity for students to develop the skills necessary for them to be readily employable as auto body repair mechanics. The practical training is as similar to actual on-the-job work experience as possible. The large shop and excellent equipment are ideal for preparation for entry into an occupation offering many job opportunities. A graduate from this program will receive a diploma from the College.

Suggested Sequence of Required Courses for the Automotive Body Repair Program

COURSE TITLE					COURSE TITLE				
FIRST QUARTER					SECOND QUARTER				
AUB 5100	Seminar I	1	0	1	AUB 5101	Seminar II	1	0	1
AUB 5223	Fiberglass & Metallic Fillers	1	3	2	AUB 5233	Lacquer Painting	1	3	2
AUB 5224	Panel Installation	1	3	2	AUB 5234	Enamel Painting	1	3	2
AUB 5421	Metal Finish & Plastic Fillers	2	6	4	AUB 5235	Special Finishes	1	3	2
AUT 5403	Basic Calculations for Auto, Diesel & Power Mechanics	4	0	4	AUB 5431	Paint Equipment and Preparation	2	6	4
WLD 5210	Basic Oxyacetylene Welding	1	3	2	AUT 5254	Auto Heating & Air Conditioning	1	3	2
WLD 5220	Basic Arc Welding	1	3	2	MGT 5200	Shop Management	2	0	2
					HSA 5200	Human Relations	2	0	2
THIRD QUARTER					FOURTH QUARTER				
AUB 5102	Seminar III	1	0	1	AUB 5202	Auto Renewal	1	3	2
AUB 5201	Trim and Glass	1	3	2	AUB 5203	Estimating Auto Body Damage	2	0	2
AUB 5214	Door & Fender Alignment	1	3	2	AUB 5344	Body Shop Applications I	0	9	3
AUB 5412	Frame & Unitized Body Alignment	2	6	4	AUB 5345	Body Shop Applications II	0	9	3
AUT 5201	Suspension Systems & Alignment	1	3	2	AUB 5346	Body Shop Applications III	0	9	3
COM 5500	Communication Skills	5	0	5					
WLD 5250	Basic Gas Metal Arc Welding	1	3	2					
					RECOMMENDED ELECTIVES:				
					ART 1317	Furniture Restoration I	0	6	3
					AUB 5347	Body Shop Applications IV	0	9	3
					AUT 5404	Auto Chassis & Suspension Systems	2	6	4
					BUS 1400	Introduction to Business	3	2	4
					DSL 5300	Diesel Fundamentals	2	3	3
					MAC 5201	Machine Shop Practices	1	3	2
					PME 5211	Small Engine Repair I	1	3	2
					RDN 9510	Reading Improvement	5	0	5

Automotive Mechanics

Modern automobiles are manufactured in a great variety of types and sizes. These vehicles are complicated machines requiring highly skilled, well-trained personnel to properly repair and maintain them for operation at peak efficiency. Wages are good and opportunities are excellent for the person who is anxious to learn and willing to work as an auto mechanic.

DESCRIPTION OF CURRICULUM

This curriculum at Central Piedmont Community College is designed to provide a comprehensive study of fundamentals and operating functions of the complete automobile through classroom exercises, with disassembly, inspection, repair, replacement, and reassembly procedures given through practical "hand-on" type of instruction in the laboratories. The program includes instruction in tune-up, overhaul, and replacement of parts of gasoline engines; trouble shooting and repair of electrical equipment; overhaul and replacement of parts in conventional and automatic transmissions; repair of rear axles and drivelines; and repair of air conditioning systems. The program also includes selected related courses that will better enable the student to understand the applied physics of the automobile, the communication (speaking and writing) of automobile terms, and the business area of the automobile industry. Upon satisfactory completion of these courses, the student will receive a certificate or diploma.

Suggested Sequence of Required Courses for the Automotive Mechanics Program

NOTE: Students must furnish their own tools. A list of these tools can be obtained by contacting one of the automotive instructors or the counselor for this program.

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
FIRST QUARTER			
AUT 5401 Internal Combustion Engines I	2	6	4
AUT 5403 Basic Calculations for Auto, Diesel & Power Mechanics	4	0	4
AUT 5404 Auto Chassis & Suspension Systems	2	6	4
AUT 5425 Auto Power Train Systems I	2	6	4
PHY 5304 Shop Science I	2	2	3
			19

THIRD QUARTER

AUT 5308 Auto Chassis & Suspension Systems Applications	1	6	3
AUT 5416 Electrical Systems II	2	6	4
AUT 5426 Auto Power Train Systems II	2	6	4
MAC 5201 Machine Shop Practices	1	3	2
WLD 5210 Basic Oxyacetylene Welding	1	3	2
			15

COURSE TITLE

SECOND QUARTER

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
AUT 5402 Internal Combustion Engines II	2	6	4
AUT 5405 Basic Automotive Fuel Systems	2	6	4
AUT 5415 Electrical Systems I	2	6	4
PHY 5305 Shop Science II	2	2	3
Elective	—	—	3
			18

FOURTH QUARTER

AUT 5254 Auto Heating & Air Conditioning	1	3	2
AUT 5307 Auto Electrical & Fuel Systems Applications	1	6	3
AUT 5309 Auto Engine & Power Train Applications	1	6	3
COM 5500 Communication Skills	5	0	5
DSL 5300 Diesel Fundamentals	2	3	3
Elective	—	—	3
			19

SUGGESTED ELECTIVES

DSL 5304 Hydraulics & Pneumatics	3
PME 5211 Small Engine Repair	2
PME 5214 Small Engine Overhaul	2
WLD 5220 Basic Electric Arc Welding	2
WLD 5250 Basic Gas-Metal Arc Welding	2

Bookkeeping/Clerical

The purposes of the Bookkeeping/Clerical curriculum are to prepare the individual for occupations which require skills in both bookkeeping and clerical; to provide an educational program for individuals wanting training to work in small businesses and other areas where a diversification of skills is needed, but not to the concentrated extent available in specialty programs such as accounting; and to provide opportunities for individuals wanting to fulfill professional or general interests and those individuals interested in upgrading or retraining.

DESCRIPTION OF CURRICULUM

The Bookkeeping/Clerical curriculum is designed to provide individuals with the knowledge to obtain entry level employment in positions requiring both accounting and secretarial training. The student will learn to perform such duties in accounting as maintaining journals and ledgers, preparing financial statements, preparing tax forms for small businesses and preparing cost data. In the secretarial area, the student will learn typing skills, records management skills, office machine skills and other secretarial responsibilities. The Associate in Applied Science Degree will be awarded upon successful completion of this program.

Suggested Sequence of Required Courses for the Bookkeeping/Clerical Program

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
FIRST QUARTER			
SEC 3404 Typing I	3	2	4
ACC 1604 Principles of Accounting I	5	2	6
COM1304 Introduction to Communication	3	0	3
*FIN 3314 Business Mathematics I	3	0	3
			16

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
SECOND QUARTER			
SEC 3405 Typing II	3	2	4
ACC 1605 Principles of Accounting II	5	2	6
*COM3305 Communication II	3	0	3
*FIN 3315 Business Mathematics II	3	0	3
			16

CONTINUED

Career Programs

THIRD QUARTER

SEC 3406	Typing III	3	2	4
ACC 2626	Intermediate Accounting I	5	2	6
SEC 4370	Records Management	3	0	3
†COM3306	Communications	3	0	3
		—	—	16

FOURTH QUARTER

ACC 2527	Intermediate Accounting II	5	2	6
SEC 3304	Office Machines	2	2	3
SEC 4407	Typing IV	3	2	4
BUS 3300	Human Relations in Business	3	0	3
		—	—	13

FIFTH QUARTER

ACC 3500	Small Business Accounting	5	0	5
BUS 2304	Business Law I	3	0	3
FIN 4334	Business Finance I	3	0	3
EDP 3405	Microcomputer Programming			
	BASIC	3	2	4
ECO 2304	Economics I	3	0	3
		—	—	18

SIXTH QUARTER

SEC 4617	General Office Procedures	5	2	6
BUS 2305	Business Law II	3	0	3
FIN 4335	Business Finance II	3	0	3
SPH 1300	Oral Communications	3	0	3
	Electives	3	0	3
		—	—	18

In 1981 over 2,000 of our students were 65 and over and, therefore, paid no tuition fee as directed by the NC General Assembly.

*MAT 1504, 1505, or MAT 1514 may be taken if student has met placement test requirements.

†COM 1305 and 1306 are recommended for students who may later decide to transfer to a senior institution.

Business Administration

The opportunities for employment and advancement in business and industry are increasing in the Charlotte and Metrolina area. Charlotte is a major distribution and finance center which offers many excellent careers in the areas of transportation, wholesaling, retailing, and banking for graduates desiring to obtain initial employment and to progress into management or decision-making activities. Manufacturing firms also provide numerous career opportunities in textiles, food products, printing and publishing, machinery, chemicals, nuclear turbines and tires. Greatest success potential will be for those who have an understanding of our economic and business environment and have developed both technical and human skills.

DESCRIPTION OF CURRICULUM

The Business Administration curriculum is designed to provide students with an understanding of economic systems and the environment of business and, at the same time, develop both the human and technical skills through the application of appropriate principles.

Graduates of the program will receive an Associate in Applied Science in Business Administration degree. The title of the degree will reflect the area of special interest which the student has chosen.

The areas of specialization within the curriculum offer the opportunity to emphasize development in specific functions of business such as Business Management, or to concentrate on development of both technical and managerial skills in such activities as Real Estate, Banking and Finance, or Postal Service Management.

Four other AAS degrees are offered through the Business Administration Division: Marketing and Retailing; Transportation; Food Preparation Occupations; and Hotel/Restaurant Management. See separate listings for course requirements and descriptions.

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

General Course Requirements

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
COM1304	Introduction to Communication	3	0 3
†COM3305	Communications II †	3	0 3
†COM3306	Communications III †	3	0 3
SPH 1300	Oral Communications	3	0 3
#ECO 2304	Economics I (Macro)	3	0 3
#ECO 2305	Economics II (Micro)	3	0 3
ACC 1604	Principles of Accounting I	5	2 6
*ACC 1605	Principles of Accounting II	5	2 6
BUS 1400	Introduction to Business	3	2 4
#BUS 2304	Business Law I	3	0 3
*BUS 2305	Business Law II	3	0 3
BUS 3300	Human Relations in Business	3	0 3
†FIN 3314	Business Mathematics I	3	0 3
MGT 2314	Principles of Management	3	0 3
		—	49

†MAT 1504, 1505, or MAT 1514, 1515 may be taken if student has met requirements.

†COM 1305 and 1306 may be taken if student has met requirements.

#Except Postal Service Mgmt area of specialization.

Areas of Specialization Requirements

BANKING AND FINANCE

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
BAF 3400	Principles of Bank Operations	3	2 4
BUS 3343	Money and Banking	3	0 3
EDP 3300	Intro to Computer Concepts	3	0 3
BUS 4340	Consumer Credit	3	0 3
MGT 4332	Personnel Management I	3	0 3
BAF 3401	Bank Management	3	2 4
BUS 4341	Commercial Credit	3	2 3
BAF 4400	Loan Credit Analysis	3	0 3
BAF 4401	Management of Commercial Bank Funds	3	2 4
FIN 4335	Business Finance II	3	0 3
FIN 4336	Financial Management	3	0 3
BAF 4402	Federal Reserve System	3	2 4
BAF 4403	International Banking	3	2 3
	Electives	—	— 9
		—	— 52

BUSINESS MANAGEMENT

		COURSE TITLE			
EDP	3300	Introduction to Computer Concepts	3	0	3
FIN	3315	Business Math II	3	0	3
ECO	2306	Economic II (Micro)	3		
MKT	1304	Marketing I	3	0	3
FIN	4334	Finance I	3	0	3
MGT	3303	Small Business Management	3	0	3
BUS	3304	Business Statistics	3	0	3
MGT	4333	Production, Planning & Control	3	0	3
BUS	2306	Business Law III	3	0	3
MGT	4330	Supervision	3	0	3
MGT	4331	Administrative Office Management	3	0	3
BUS	4340	Consumer Credit			
BUS	4341	OR Commercial Credit	3	0	3
MGT	4332	Personnel Management I	3	0	3
MGT	4334	Management Seminar	3	0	3
MGT	4337	Personnel Management II	3	0	3
		Electives	—	—	6
					51

REAL ESTATE

		COURSE TITLE			
EDP	3300	Introduction to Computer Concepts	3	0	3
FIN	3315	Business Math II	3	0	3
MGT	3303	Small Business Management	3	0	3
RES	3360	Real Estate Property Management	3	0	3
RES	3364	Residential Real Estate Appraisal I	3	0	3
RES	3365	Residential Real Estate Appraisal II	3	0	3
RES	3664	Real Estate Broker Prelicensing I	6	0	6
RES	3665	Real Estate Broker Prelicensing II	6	0	6
RES	4364	Land Use Planning and Zoning	3	0	3
RES	4365	Real Estate Marketing	3	0	3
RES	4366	Financing Home Purchases	3	0	3
RES	4367	Income Real Estate Appraisal I	3	0	3
RES	4368	Income Real Estate Appraisal II	3	0	3
RES	4374	Real Estate Investment	3	0	3
RES	4375	Industrial Real Estate	3	0	3
RES	4376	Real Estate Law	3	0	3
		Electives	—	—	3
					57

POSTAL SERVICE MANAGEMENT

		COURSE TITLE				
			HRS/WK	QTR		
			CLS	LAB	CR	
ECO	3300	Introduction to Economics	3	0	3	
ECO	3302	Labor Economics	3	0	3	
PSM	3300	Postal Service History & Organization	3	0	3	
RDN	9510	Reading Improvement	5	0	5	
PSM	3401	Postal Service Labor Management	3	2	4	
HED	1204	First-Aid I	1	2	2	
PSM	4420	Postal Employee Services	3	2	4	
PSM	3404	Mail Processing I	3	2	4	
PSM	3405	Mail Processing II	3	2	4	
PSM	4401	Postal Service Support	3	2	4	
PSM	4421	Postal Customer Services	3	2	4	
PSM	4430	Postal Delivery & Collection	3	2	4	
MGT	4330	Supervision	3	0	3	
SOC	1301	Group Interaction	3	0	3	
EDP	3300	Introduction to Computer Concepts	3	0	3	
PSM	4431	Postal Problems Analysis	3	2	4	
SOC	4300	Social & Minority Issues	3	0	3	
ACC	4434	Income Taxes Individual	3	2	4	
						64



Civil Engineering Technology

Civil Engineering Technology involves the planning, supervision, and construction of permanent structures and public works. Its major functions consist of the preparation of surveys; the design of structures (buildings, bridges, dams, power plants); the planning of municipal systems (water, gas, sanitary, flood control); and the development of transportation facilities (highways, airline facilities). Civil engineering technicians perform many of the planning and supervisory tasks necessary in this vast construction industry.

DESCRIPTION OF CURRICULUM

The Civil Engineering Technology curriculum is a comprehensive program providing a basic background with classroom and laboratory experiences in the practical application of both fundamental and specialized civil engineering technology principles. Courses in drafting, architectural technology, and civil engineering technology — complemented by courses in mathematics, physics, and communication — give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized courses that furnish concentrated study in the practical application of technological knowledge and skills needed in today's construction industry.

The program is designed to produce civil engineering technicians with sound knowledge and skills in building specifications, blueprint reading, drafting, design, site planning, construction materials and methods, codes and contracts, steel and timber design, reinforced concrete design, structural design, plain concrete, construction estimates, foundation construction, construction of roads and pavements, and construction planning.

CAREER OPPORTUNITIES

The large and varied construction industry provides excellent opportunities for the individual with ability and training.

Graduates from the program may work with engineers, architects, and skilled craftpersons in capacities such as instrument person, surveyor, survey party chief, layout person, drafter, supervisor, expeditor, engineering aid, inspector, materials tester, construction equipment and materials salesperson. Upon gaining sufficient construction experience, the graduate has the opportunity to advance to such positions as field supervisor, chief inspector, estimator, job superintendent, project manager, or contractor. Initial employment possibilities exist with architectural and engineering firms, surveying firms, contractors, materials testing firms, municipal engineering and transportation departments.

Upon completion of the program an Associate of Applied Science (A.A.S.) degree in Civil Engineering Technology will be awarded. For more information contact the Civil Engineering Technology Program Director (704) 373-6548 or the Technology Division Head (704) 373-6557, or write to them.

Suggested Sequence of Required Courses for the Civil Engineering Technology Program.

COURSE TITLE				QTR			COURSE TITLE				QTR		
FIRST QUARTER				HRS/WK	CLS	HRS	SECOND QUARTER				HRS/WK	CLS	HRS
CIV	3504	Surveying I		3	6	5	ARC	4200	Architectural Blueprint Reading & Specifications		1	3	2
ARC	3334	Architectural Drafting I: Basic & Residential		1	6	3	ARC	3335	Arch. Drafting II: Site Planning & Commercial		1	6	3
MAT	3507	Engr. Tech. Math I		5	0	5	MAT	3508	Engr. Tech. Math II		5	0	5
COM	1304	Intro. to Communication		3	0	3	PHY	1404	Physics I: Basic Mechanics		3	2	4
						16	COM	3305	Communications II		3	0	3
THIRD QUARTER													17
CIV	3306	Construction Materials & Methods		2	3	3	FOURTH QUARTER						
CIV	3514	Statics		3	6	5	CIV	4405	Surveying II		2	6	4
MAT	3509	Engr. Tech. Math III		5	0	5	CIV	3524	Strength of Materials		3	6	5
EDP	3405	Microcomputer Programming: Basic		3	2	4	ARC	4300	Architectural Mechanical Equipment		2	3	3
						17	CIV	4300	Codes & Contracts		2	3	3
FIFTH QUARTER							†		General Education Electives		—	—	3
CIV	4406	Surveying III		2	6	4							18
CIV	4427	Steel & Timber Design		3	3	4	SIXTH QUARTER						
CIV	4302	Plain Concrete		1	6	3	CIV	4204	Construction Planning (CPM)		1	3	2
PHY	1405	Physics II: Elastic & Thermal Properties of Matter		3	2	4	CIV	4434	Reinforced Concrete Design		3	3	4
†		Technical Elective		—	—	2	ARC	4339	Architectural Drafting VI: Structural		1	6	3
						17	SPH	1300	Oral Communications		3	0	3
SEVENTH QUARTER							*		General Education Elective		3	0	3
CIV	4305	Construction Estimates		2	3	3							15
CIV	4424	Foundation Construction		3	3	4	†SUGGESTED TECHNICAL ELECTIVES:						
CIV	4344	Construction of Roads & Pavements		1	6	3	ARC	3301	Build Your Home				
PHY	1406	Physics III: Electricity & Magnetism		3	2	4	ARC	3302	Home Constr. Methods & Details				
COM	3306	Communication III		3	0	3	ARC	4310	Energy Efficient & Solar Home Design				
						17	CIV	4220	Principles of Hydraulics				
Total Quarter Hour Credits Required						117							

*General Education Electives must be chosen from the areas of Communications, Social Science, and/or (Humanities, Art, Drama, Music, Literature, Language and Philosophy).

Computer Operations

The increasing sophistication and expansion of data processing equipment throughout business and industry has created a need for skilled operators. The operator is responsible for the operation of computer and auxiliary machinery whose expense necessitates efficient utilization. The operator must be knowledgeable enough about the data processing equipment being used to efficiently monitor and control the equipment according to prescribed operating instructions and detect malfunctions as they occur.

DESCRIPTION OF CURRICULUM

The data processing equipment operator program at Central Piedmont Community College will provide the student with the knowledge to seek employment in Computer Operations and other auxiliary or peripheral equipment operation. The knowledge gained by the student falls into three categories: the operational details of the central processing unit and peripheral equipment; the ability to recognize the nature of the job being run and its processing requirements; and a knowledge of computer manufacturer supplied programs such as utility programs and control programs. A graduate from this curriculum will receive a diploma from the College.

All prerequisites and co-requisites must be met before enrolling in a particular class.

Suggested Course Sequence for the Computer Operations Program

NOTE: SEC 3404 required only for students that have not had a typing course.

NOTE: SEC 3404 required only for students that have not had a typing course.

COURSE TITLE	HRS/WK	QTR			COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR			CLS	LAB	CR
FIRST QUARTER									
EDP 3300	Intro to Computer Concepts	3	0	3	EDP 5424	Programming I - Operators	3	2	4
COM 1304	Intro. to Communication	3	0	3	EDP 5614	Computer Operations II	5	2	6
FIN 3314	Business Mathematics I	3	0	3	COM 3305	Communication II	3	0	3
EDP 5613	Computer Operations I	5	2	6	BUS 1400	Introduction to Business	3	2	4
				15					17
THIRD QUARTER									
EDP 5425	Programming II - Opertions	3	2	4	FOURTH QUARTER				
EDP 5615	Computer Operations III	5	2	6	EDP 5616	Computer Operations IV	5	2	6
EDP 5524	General Data Processing Applications	4	2	5	SPH 1300	Oral Communications	3	0	3
COM 3306	Communications II	3	0	3		General Elective	3	0	3
				18	SEC 3304	Office Machines	2	2	3
SPECIAL SERVICE COURSE									
					EDP 5300	Microcomputer Operations	2	2	3

Correctional Science

The Correctional Science program is designed to provide college level education for men and women who are working in, or anticipating entering, the challenging and exciting field of corrections and allied fields. This field of study has become particularly demanding each year due to the rapid increase of persons committing crimes against society. The need for professionals to help meet the changing trends in the American Correctional System has never been greater.

For qualified men and women there are job opportunities in: youth services and centers as counselors and recreational personnel, departments of correction as custody and treatment staff, federal prison services, court counselors and intake officers, and probation/parole officers.

DESCRIPTION OF CURRICULUM

This curriculum is designed to give students the skills, knowledge and understanding required of correctional paraprofessional personnel. In addition, specialized courses in Probation/ Parole are offered that prepare students as Assistant Court Counselors. Upon successful completion of the curriculum, the degree of Associate in Applied Science will be awarded. Classes are scheduled both day and evening to accommodate full-time students and in-service persons working irregular hours.

REQUIRED COURSES

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
CSC 3500 Introduction to Corrections	5	0	5	
CSC 3501 Correctional Psychology	5	0	5	
CSC 3504 Juvenile Justice System	5	0	5	
CSC 3514 Contemporary Correctional Inst.	5	0	5	
CSC 3524 Probation/Parole	5	0	5	
CSC 4505 Corrections/Rights and Sanctions	5	0	5	
CSC 4514 Corrections/Community Based Programs	5	0	5	
CSC 3302 Assistant Court Counselor	3	0	3	
CSC 3303 Supervision for Probation and Parole	3	0	3	
HSA 3421 Helping and Behavioral Stress	4	0	4	
*HSA 3604 Helping Relationship Technology	3	9	6	
PSC 3500 Introduction to Criminology	5	0	5	
PSC 3510 Criminal Law	5	0	5	
PSC 4310 Self Defense and Weaponry	1	4	3	
PSC 4520 Public Relations	5	0	5	
SSH 4510 Principles of Interviewing and Interrogation	5	0	5	
SEC 3404 Typing I	3	2	4	
Technical Electives			5	
			83	

*HSA 3604 is an apprenticeship course which will be taken by students who have completed at least 50 credits in the Correctional Science program.

APPROVED ELECTIVES:

ACC 1604 Principles of Accounting I
ANT 1500 Intro. to Cul. Anthro.
BIO 1500 Biological Science
BUS 1400 Intro to Business
CHM 1504 General Chemistry I
EDP 3300 Intro. to Computer Concepts
HIS 1502 American History I
MAT 2514 Statistics I
PHI 1500 Intro to Philosophy
PHI 2500 Logic
POL 1502 American Government
PSY 2514 Abnormal Psychology
PSY 2524 Mental Retardation
SOC 2514 Intro to Sociology

GENERAL EDUCATION COURSES:

COM 1304 Introduction to Communications	3	0	3
COM 13405 English Composition II	3	0	3
or			
COM 3305 Communications II			
COM 1306 English Composition III	3	0	3
or			
COM 3306 Communications III			
HED 1204 First Aid I	2	1	2
MAT 1504 College Algebra	5	0	5
or			
MAT 3501 Math for Public Safety			
PSY 2504 General Psychology	5	0	5
SPH 1300 Oral Communications	3	0	3
	21	1	24

Total Quarter Credits Required

107

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

Data Entry Operations

The Data Entry Operator prepares data which is read by the computer using an automatic coding device. The importance of the skilled operator is being recognized with the increased use of computers in business and industry.

DESCRIPTION OF CURRICULUM

The Data Entry Operations program is designed to give the graduate the knowledge and skills needed to seek employment in the field of Data Entry. This program prepares the student to follow keying instructions effectively and thereby create formats to be used in data entry applications. Simulated jobs will be practiced to obtain keying speed and accuracy. A certificate will be awarded upon successful completion of this program.

Suggested Course Sequence for the Data Entry Operations Program

COURSE TITLE				QTR			COURSE TITLE				QTR		
FIRST QUARTER				HRS/WK	CLS	LAB	HRS	SECOND QUARTER				HRS/WK	CLS
EDP	3300	Introduction to Computer Concepts		3	0		3	EDP	5902	Data Entry II		4	15
EDP	5901	Data Entry I		4	15		9	SEC	3304	Office Machines		2	2
FIN	3314	Business Mathematics I		3	0		3	COM	5500	Communication Skills		5	0
							15						17

SPECIAL SERVICE COURSE

EDP 5201 CRT Use in Business Applications

Data Processing, Business

The Business Data Processing curriculum prepares the graduate to seek work on an entry level basis as a business application programmer or programmer/analyst. A graduate of this curriculum will receive the Associate in Applied Science Degree in Business Data Processing.

DESCRIPTION OF CURRICULUM

A graduate of the Business Data Processing curriculum will have completed a series of courses in computer concepts, data processing fundamentals, programming, software control systems, electronic data processing applications, fundamentals of systems analysis and design, accounting, English and mathematics. When these courses are linked with several years of experience after graduation as a business application programmer career paths in business programming, systems analysis, and management could be available. Initial employment may involve systems analysis and design as a part of the programmer's responsibilities.

COURSE REQUIREMENTS BUSINESS DATA PROCESSING

COURSE TITLE				QTR	HRS	CR
EDP	3300	Introduction to Computer Concepts		3		
EDP	3514	Computer Language I-COBOL		5		
EDP	3515	Computer Language II-COBOL		5		
EDP	4425	Computer Systems I		4		
EDP	4435	Computer Systems II		4		
EDP	3440	Assembly Language		4		
EDP	4444	RPG II Programming		4		
EDP	4445	Advanced RPG II Programming		4		
EDP	4516	CICS and Programming Aids		5		
EDP	4314	Systems and Procedures		3		
EDP	4315	Applied Business Systems		3		
EDP	4517	Data Processing Applications I		5		
EDP	4518	Data Processing Applications II		5		
ACC	1604	Principles of Accounting I		6		
ACC	1605	Principles of Accounting II		6		
ACC/	BUS	Electives		12		
BUS	3304	Business Statistics		3		
COM	1304	Introduction to Communications		3		
COM	3305	Communications II		3		
COM	3306	Communications III		3		
ECO	3300	Introduction to Economics		3		
		General Elective		3		
MAT	3504	Technical Mathematics I		5		
MAT	3505	Technical Mathematics II		5		
SPH	1300	Oral Communications		3		
		Social Science/Humanities Elective		3		
				112		

SPECIAL SERVICE PACKAGES

FORTRAN Programming				
EDP	1404	Computer Concepts and FORTRAN Programming I		4
EDP	1405	FORTRAN Programming II		4
COBOL Programming				
EDP	3514	Computer Language I - COBOL		5
EDP	3515	Computer Language II - COBOL		5
RPG II Programming				
EDP	4444	RPG II Programming		4
EDP	4445	Advanced RPG II Programming		4
Microcomputer Programming				
EDP	3405	Microcomputer Programming - BASIC		4
EDP	3406	Microcomputer Programming - Advanced BASIC		4
EDP	3407	Programming Microcomputers for Business Applications		4
Operating Systems and JCL				
EDP	4425	Computer Systems I		4
EDP	4435	Computer Systems II		4
General Interest				
EDP	3300	Introduction to Computer Concepts		3
Assembly Language for Large Computers				
EDP	3440	Assembly Language		4
Computer Science Emphasis for College Transfer				
EDP	1404	Computer Concepts and FORTRAN Programming I		4
EDP	1405	FORTRAN Programming II		4
EDP	2306	Computer Programming I (Business)		3
EDP	2307	Computer Programming II (Business)		3
EDP	2308	Computer Systems and Assembly Language I		3
EDP	2309	Computer Systems and Assembly Language II		3
EDP	2514	Statistical and Numerical Programming		5

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or adviser.

Dental Assisting

The primary function of the dental assistant is to serve as the chairside assistant to the dentist. Here the assistant plays an active and integral role in dental procedures by preparing patients for treatment, setting out instruments in the order in which they are to be used, keeping the operation field clear during treatment, mixing filling materials and dental cements, and passing these materials and instruments to the dentist as they are needed.

The trained dental assistant also checks equipment, sterilizes instruments, and engages in such laboratory work as making study models of teeth, casting inlays, processing x-ray films and mounting them in appropriate holders.

In many offices the dental assistant also serves as receptionist and office manager, schedules appointments, and maintains financial and patient records.

DESCRIPTION OF CURRICULUM

This curriculum at Central Piedmont Community College includes instruction in dental anatomy and physiology, bacteriology, pharmacology, oral pathology, dental materials, chairside assisting, typing, English, human relations and record keeping. A large portion of the student's time is spent in laboratory work and clinical experiences. A graduate from this curriculum will receive a diploma from the College and is eligible to take the National Certification Examination.

Suggested Sequence of Required Courses for the Dental Assisting Program

COURSE TITLE				QTR				COURSE TITLE				QTR			
				HRS/WK	HRS							HRS/WK	HRS		
FIRST QUARTER				CLS	LAB	CR		SECOND QUARTER				CLS	LAB	CR	
COM 5500	Communication Skills			5	0	0	5	ACC 5610	Medical Accounting			5	2	0	6
HSA 5200	Human Relations			2	0	0	2	COM 5301	Communications Skills II			3	0	0	3
DEA 5300	Anatomy and Physiology			3	0	0	3	DEA 5305	Preclinical Science II			3	0	0	3
DEA 5302	Introduction to Dental Assisting			2	0	3	3	DEA 5414	Dental Roentgenology			2	0	6	4
DEA 5600	Dental Materials			3	9	0	6	DEA 5424	Clinical Procedures I			2	0	6	4
DEA 5304	Preclinical Science I			3	0	0	3								20
							22								
THIRD QUARTER								FOURTH QUARTER							
DEA 5525	Clinical Procedures II			4	0	3	5	DEA 5204	Dental Assistant Seminar			2	0	0	2
DEA 5534	Dental Office Management			4	0	3	5	DEA 5845	Dental Office Practice II			0	0	24	8
DEA 5344	Dental Office Practice I			0	0	9	3								10
SPH 1300	Oral Communications			3	0	0	3								
SEC 3404	Typing I			3	2	0	4								
							20								

CPCC's international student community puts an estimated \$9,000,000 into local businesses.

Dental Hygiene

This curriculum at Central Piedmont Community College includes a background of basic studies, specialized and directed experience. The dental hygiene student will cultivate the judgement and skill prerequisite for providing oral health care to the public under supervision of the dentist within the limits of the ethics and laws of the state.

DESCRIPTION OF CURRICULUM

The educational program consists of the theory and practice of dental hygiene, basic science and health courses and appropriate general education experiences. Dental Hygiene experience is provided through the use of a dental hygiene clinic located on the College campus and through affiliations with nearby hospitals. Admission is based upon satisfactory scores on specific placement tests, personal interviews, evidence of good physical health, and early application.

The curriculum is accredited. Graduates in this curriculum receive the degree Associate in Applied Science in Dental Hygiene. Prerequisites: high school algebra, chemistry, or equivalent.

NOTE: Before receiving the degree, a person must have a current Red Cross Standard First Aid and Personal Safety card on file in the CPCC Graduation Certification Office and/or must have successfully completed HED 1204.

Suggested Sequence of Required Courses for the Dental Hygiene Program

COURSE TITLE					QTR				COURSE TITLE					QTR			
					HRS/WK HRS									HRS/WK HRS			
					CLS LAB CR									CLS LAB CR			
FIRST QUARTER									SECOND QUARTER								
COM 1304	Intro. to Communications	3	0	0	3	COM 1305	English Comp. II	3	0	0	3						
DEN 3404	Dental Anatomy I	1	6	0	4	DEN 3405	Dental Anatomy II	1	6	0	4						
BIO 1504	Human Anatomy & Physiology I	3	4	0	5	BIO 1505	Human Anatomy & Physiology II	3	4	0	5						
DEN 3314	Preventive Dentistry I	3	0	0	3	SPH 1300	Oral Communications	3	0	0	3						
THIRD QUARTER					15	CHM 1501	Introductory Chemistry II	3	4	0	5						
COM 1306	English Composition III	3	0	0	3							20					
DEN 3524	Dental Hygiene I	2	6	0	5	FOURTH QUARTER											
BIO 1503	Microbiology	3	4	0	5	DEN 4100	Office Emergencies	1	0	0	1						
CHM 1502	Introductory Chemistry III	3	4	0	5	DEN 4315	Preventive Dentistry II	3	0	0	3						
DEN 3224	Head & Neck Anatomy	2	0	0	2	DEN 4425	Dental Hygiene II	1	0	9	4						
FIFTH QUARTER					20	DEN 4401	Dental Radiology	2	3	0	4						
DEN 4204	Pharmacology	2	0	0	2	DEN 4500	Dental Materials	3	4	0	5						
DEN 4426	Dental Hygiene III	0	0	12	4	HED 4201	Special Health Problems	2	0	0	2						
BIO 2305	Dental Nutrition	3	0	0	3							19					
DEN 4304	Embryology & Oral Histology	3	0	0	3	SIXTH QUARTER											
DEN 4231	General Pathology	2	0	0	2	PSY 2504	General Psychology	5	0	0	5						
DEN 4114	Periodontics	1	0	0	1	DEN 4527	Dental Hygiene IV	0	0	15	5						
DEN 4104	Clinical Theory I	1	0	0	1	DEN 4316	Preventive Dentistry III										
SEVENTH QUARTER					16	Prerequisite DEN 4426											
PSY	Elective (3-5 hours)	5	0	0	5	Prerequisite DEN 4315											
DEN 4628	Dental Hygiene V	0	0	18	6	DEN 4390	Individual Study	3	0	0	3						
DEN 4214	Practice Administration	2	0	0	2	DEN 4105	Clinical Theory II	1	0	0	1						
SOC 2514	Introduction to Sociology	5	0	0	5	DEN 4332	Oral Pathology	3	0	0	3						
DEN 4106	Clinical Theory III	1	0	0	1							20					
					19												

Diesel Mechanics

Modern diesel power is used by many manufacturers in a great variety of types and sizes of equipment and vehicles. Its use includes stationary units, large trucks, construction equipment and a growing percent of personal transportation vehicles and farm equipment. These are complicated machines requiring highly skilled, well-trained personnel to repair and maintain them properly for operation at peak efficiency. Opportunities are excellent for the person who is anxious to learn and willing to work.

DESCRIPTION OF CURRICULUM

The Diesel Mechanics program has two main objectives: to train the aspiring mechanic for entry into the diesel repair and maintenance field, and to serve the greater Charlotte area by providing training and upgrading for service people in two major industries, diesel transportation and equipment service. These objectives are obtained by hands-on training and individual study of major diesel engines and related components. This curriculum provides for a detailed four quarter (44 weeks) study of diesel fundamentals, engine repair and maintenance procedures on heavy duty and light duty diesels. The curriculum includes related shop courses in power train systems, air brakes, automotive electrical, welding, machine shop and hydraulics. Completion of this program leads to a diploma in Diesel Mechanics.

Suggested Sequence of Required Courses for the Diesel Mechanics Program

COURSE TITLE					QTR				
					HRS/WK	CLS	LAB	HRS	CR
FIRST QUARTER									
AUT	5401	Internal Combustion Engines	2	6	4				
AUT	5415	Electrical Systems I	2	6	4				
DSL	5300	Diesel Fundamentals	2	3	3				
DSL	5304	Hydraulics and Pneumatics	2	2	3				
AUT	5403	Basic Calculations for Auto, Diesel & Power Mechanics	4	0	4				
					18				
THIRD QUARTER									
AUT	5254	Auto Heating & Air Conditioning	1	3	2				
DSL	5316	Detroit 2 Stroke Cycle Engines	1	6	3				
DSL	5317	Mack Diesels	1	6	3				
DSL	5320	Fuel Injection Systems II	2	3	3				
PHY	5305	Shop Science II	2	2	3				
WLD	5220	Basic Electric Arc Welding	1	3	2				
					16				
SECOND QUARTER									
AUT	5212	Electrical Testing	1	3	2				
DSL	5314	Caterpillar Diesels	1	6	3				
DSL	5315	Cummins Diesels	1	6	3				
DSL	5319	Fuel Injection Systems I	2	3	3				
PHY	5304	Shop Science I	2	2	3				
WLD	5210	Basic Oxyacetylene Welding	1	3	2				
					16				
FOURTH QUARTER									
AUT	5425	Auto Powertrain Systems I	2	6	4				
COM	5500	Communications Skills	5	0	5				
DSL	5308	Air Brakes	2	2	3				
DSL	5318	Diesel Tune-up and Troubleshooting	2	3	3				
MAC	5201	Machine Shop Fundamentals	1	3	2				
					2				
					19				
RECOMMENDED ELECTIVES:									
AUB	5202	Auto Renewal							
AUB	5214	Door and Fender Alignment							
AUB	5300	Auto Body Minor Damage and Paint Repair							
AUT	5201	Suspension Systems and Alignment							
DSL	5203	Basic Auto Diesel Engines							
DSL	5400	Heavy Duty Transmission Repair							
HSA	5200	Human Relations							
MGT	5200	Shop Management							
PME	5211	Small Engine Repair							
WLD	5250	Basic Gas Metal Arc Welding							

ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM

The Electronics Engineering Technology graduates may typically choose employment in specialized fields such as: computer electronics, microcomputer system design and interfacing, digital electronics, analog electronics, medical electronics, communication electronics, consumer electronics, industrial instrumentation, and industrial controls.

Suggested Sequence of Courses for the Electronics Engineering Technology Program

COURSE TITLE	QTR			COURSE TITLE	QTR		
	HRS/WK	CLS	CR		HRS/WK	CLS	CR
FIRST QUARTER				SECOND QUARTER			
ELN 3100 E/E Seminar	1	0	1	ELN 3403 Instruments & Measurements	3	3	4
ELN 3514 Basic Electricity (DC)	3	6	5	ELN 3515 Basic Electricity (AC)	3	6	5
DFT 3400 E/E Drafting	2	6	4	MAT 3508 Engr. Technology Math II	5	0	5
MAT 3507 Engr. Technology Math I	5	0	5	COM3305 Communications II	3	0	3
COM1304 Intro. to Communication	3	0	3				17
			18	FOURTH QUARTER			
THIRD QUARTER				ELN 3405 Electronics II: Analog Ckts.	3	3	4
ELN 3404 Electronics I: Active Devices	3	3	4	ELN 4427 Digital Circuits I	3	3	4
ELN 4444 Network Analysis	3	3	4	ELN 4525 Electrical Machines I	3	6	5
MAT 3509 Engr. Technology Math III	5	0	5	PHY 1405 Physics II: Matter	3	2	4
PHY 1404 Physics I: Basic Mechanics	3	2	4				17
			17	SIXTH QUARTER			
FIFTH QUARTER				ELN 4326 E/E Project	1	6	3
ELN 3517 Electronics III: Circuits	3	6	5	ELN 4407 Electronics IV: Op-Amps	3	3	4
ELN 4434 Digital Circuits II	3	3	4	†ELN E/E Specialty Elective	3	3	4
ELN 4435 Microcomputer Applications	3	3	4	COM3306 Communications II	3	0	3
SPH 1300 Oral Communications	3	0	3				14
* General Education Elective	—	—	3				
			19				
SEVENTH QUARTER							
ELN 4100 E/E Senior Seminar	1	0	1				
ELN 4307 Sys. Correction Procedures	1	6	3				
OR							
ELN 4416 Computer Maintenance I	2	6	4				
†ELN E/E Specialty Elective	3	3	4				
†ELN E/E Specialty Elective	3	3	4				
* General Education Elective	—	—	3				
			15				
Total Quarter Credits Required			117				

*General Education Electives must be selected from the areas of Communications, Social Science, or Humanities.

†ELECTRICAL/ELECTRONICS SPECIALTY ELECTIVES:

- ELN 3414 Industrial Instrumentation
- †ELN 4304 Radiotelephone Operation
- *ELN 4310 Introduction to Microprocessors
- ELN 4345 Advanced E/E Topics
- †ELN 4401 Planning Electrical Installations
- ELN 4404 Medical Electronics
- *ELN 4407 Electronics IV: Op-Amps
- ELN 4414 Receivers and Transmitters
- †ELN 4415 Industrial Programmable Controllers
- *ELN 4314 Digital Circuits II
- †ELN 4505 Power Electronics
- †ELN 4526 Electrical Machines II
- ELN 4547 Microprocessors I
- ELN 4557 Microprocessors II
- ELN 4567 Microcomputer System Design
- *ELN 4307 Systems Correction Procedure
- *ELN 4416 Computer Maintenance

*Elective only in electrical program

†Elective only in electronics program

‡One is required, the other is an elective

Fire Science Technology

The fire science technician is responsible for seeking to prevent losses by eliminating hazards, by inspecting various types of buildings for fire and safety hazards, checking existing fire and safety codes for methods of eliminating hazards and applying principles of protection in a logical sequence to arrive at solutions.

Employment opportunities as a fire science technician are available with insurance companies, industrial firms, governmental agencies, educational organizations, fire protection equipment manufacturers and research groups. The technician may also be involved in teaching the use of basic fire protection and safety equipment, in demonstrating equipment, and in supervising installation of equipment.

DESCRIPTION OF CURRICULUM

Fire Science Technology is a two-year curriculum of technical education designed to prepare the individual for entry-level employment as a fire science technician. The curriculum provides a basic technical background in fire protection, safety and related subjects. Students are trained to identify fire and safety hazards and to propose effective measures for eliminating hazards. Specific skills are developed in many phases of the occupation. Graduates will receive the degree Associate in Applied Science in Fire Science Technology.

Specialized Course Requirements

COURSE TITLE	HPS/WK	CLS	QTR	
			LAB	CR
FIP 3303 Fire Protection I	3	0	3	
FIP 3406 Arson Detection & Investigation	3	2	4	
FIP 4414 Inspection Principles & Building Codes	3	2	4	
FIP 4314 Methods of Teaching	3	0	3	
FIP 4444 Fire Fighting Strategy	3	2	4	
FIP 4304 Fire Protection Law	3	0	3	
FIP 3304 Fire Protection II	3	0	3	
FIP 3404 Chemistry of Flammable Materials	3	2	4	
FIP 3301 Fire Prevention Programs & Public Relations	3	0	3	
FIP 4434 Chemical & Radiation Hazards	3	2	4	
FIP 4403 Hydraulics for Fire Protection	3	2	4	
FIP 4423 Portable & Fixed Extinguishing Systems	3	2	4	
FIP 4454 Building Construction & Material Rating	3	2	4	
FIP 4405 Sprinkler & Standpipe Systems	3	2	4	
FIP 4404 Water Distribution Systems	3	2	4	
FIP 4424 Automatic Alarm Systems	3	2	4	
			59	

General Education Requirements

CHM 3600 Fire Protection Chemistry	4	4	6
MAT 3500 Mathematics for Firemen	5	0	5
COM 1304 Introduction to Communication	3	0	3
EDP 3300 Introduction to Computer Concepts	3	0	3
PHY 5304 Shop Science I	2	2	3
PHY 5305 Shop Science II	2	2	3
COM 3305 Communications II	3	0	3
COM 3306 Communications III	3	0	3
HSA 3421 Helping & Behavioral Stress	4	0	4
DFT 3404 Technical Drafting	2	6	4
SPH 1300 Oral Communications	3	0	3
SPH 2304 Public Speaking	3	0	3
MGT 4330 Supervision	3	0	3
			46

Total hours of credit required for degree 105

NOTE: Full time students should obtain a course/quarter sequence sheet from their counselor or adviser.



Food Preparation

The food service industry is among the largest employers in the country today. With the increase in numbers of people eating outside the home, projected employment needs in this area now and in the future are numerous. This curriculum is designed to provide the student with the basic fundamentals of all types of food preparation. In addition, supervisory skill and financial management are emphasized so that the student should be able to progress into supervisory positions.

DESCRIPTION OF CURRICULUM

The Food Preparation Program is designed to prepare the student for a variety of job opportunities in the food service industry. The curriculum provides basic skills in all areas of food preparation. In addition, courses in Business Management, Accounting, Communications, and Human Relations provide a well balanced program designed to give both technical and administrative skills. Upon successful completion of the required courses, the degree of Associate in Applied Science in Food Preparation will be awarded.

The Food Preparation Program also offers a basic certificate program. To qualify for a certificate the student must successfully complete all of the Specialized Course Requirements.**

SPECIALIZED COURSE REQUIREMENTS

		COURSE TITLE	QTR HRS/WK HRS CLS LAB CR				
FIRST QUARTER						GENERAL COURSES	
FSO	3300	Introduction to Food Service Technology**	3	0	3	FIN 3315	Business Mathematics II 3 0 3
FSO	3504	Food Preparation I**	2	9	5	ACC 3500	Small Business Accounting 5 0 5
FSO	4414	Garde Manger I**	2	6	4	COM 1304	Introduction to Communication 3 0 3
FSO	4407	Baking I**	2	6	4	COM 3305	Communications II 3 0 3
FSO	3505	Food Preparation II	2	9	5	BUS 3300	Human Relations in Business 3 0 3
FSO	4415	Garde Manger II**	2	6	4	ECO 3300	Introduction to Economics 3 0 3
FSO	4408	Baking II**	2	6	4	MGT 3303	Small Business Management 3 0 3
FSO	3506	Food Preparation III**	2	9	5	MGT 4330	Supervision 3 0 3
FSO	4409	Baking III**	2	6	4	SOC 1301	Group Interaction 3 0 3
FSO	4416	Garde Manger III**	2	6	4	FSO 3305	Table Cookery 3 2 5
FSO	4506	Food Preparation IV**	2	9	5	FSO 4507	Food Preparation V 2 9 5
FSO	4508	Food Preparation Practicum**	2	9	5	MKT 3320	Fundamentals of Selling 3 0 3
FIN	3314	Business Mathematics I**	3	0	3		
SPH	1300	Oral Communications**	3	0	3		
FSO	4304	Food & Labor Cost Controls**	3	0	3		
HRM	3104	Speaker Seminar I	1	0	1		
		General Elective	3	0	3		
					65		42

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or adviser.

Graphic Arts

Graphic Arts in the United States is the largest industry in terms of manufacturing plants. Over one million people are employed in this field, turning out an annual volume of printed products valued in the billions of dollars. Recent growth has been slightly faster than the Gross National Product (G.N.P.) of the U.S. New technology is changing many of the machines, methods and processes to require highly skilled technicians and craftsmen. Opportunities are excellent in this field for men and women who are anxious to learn and are willing to invest time acquiring the necessary skills and knowledge.

DESCRIPTION OF CURRICULUM

The Graphic Arts curriculum at Central Piedmont Community College is designed to provide an overview of the graphic arts industry with major technical writing in offset lithographic preparation and printing. This program is designed for those who wish to prepare themselves for a career in the graphic arts industry or for those currently employed in this industry who wish to upgrade their skills. The student will not only learn the theory, but the practical application through laboratory experiences. In addition to a general introduction to graphic arts and other related courses, specific training will be offered in the following: offset stripping, platemaking, camera, and press applications. Upon successful completion of this curriculum, the student will be qualified for a diploma.

Suggested Sequence of Required Courses for the Graphic Arts Diploma Program

		COURSE TITLE	QTR HRS/WK HRS CLS LAB CR					COURSE TITLE	QTR HRS/WK HRS CLS LAB CR		
FIRST QUARTER						SECOND QUARTER					
COM	5500	Communication Skills	5	0	5	PRN	5310	Paper and Ink	3	0	3
HSA	5200	Human Relations	2	0	2	PRN	5314	Process Camera I	2	2	3
PRN	5369	Introduction to Graphic Arts	3	0	3	PRN	5365	Stripping I & Platemaking	2	2	3
PRN	5401	Copy Preparation I	2	4	4	PRN	5402	Basic Calculations for Printers	4	0	4
					16	PRN	5424	Offset Press I & Bindery	2	4	4
											17

THIRD QUARTER

PRN 5315	Process Camera II	2	2	4
PRN 5425	Offset Press II	2	4	4
PRN 5435	Offset Stripping II	2	4	4
PRN 5700	Printing Applications I OR	2	15	7
PRN 5371	Printing Applications I - Part A	1	6	3
PRN 5272	Printing Applications I - Part B	1	3	2
PRN 5273	Printing Applications I - Part C	0	6	2
	Elective	—	—	3
				21

RECOMMENDED ELECTIVES

ACC 1604	Principles of Accounting I	5	2	6
BUS 1400	Introduction to Business	3	2	4
BUS 2304	Business Law I	3	0	3
BUS 4303	Labor Law	3	0	3
COM 1304	Introduction to Communication	3	0	3
COM 3305	Communications II	3	0	3
MGT 2314	Principles of Management	3	0	3
MGT 4330	Supervision	3	0	3
MKT 1304	Marketing	3	0	3
MKT 4322	Purchasing	3	0	3
PRN 4311	Printing Sales	3	0	3
PRN 4337	Color Separation Techniques & Theory	2	2	3
PRN 5313	Typesetting I	2	2	3
PRN 5316	Production Screen Printing	2	2	3
PRN 5390	Individual Study	3	0	3
PRN 5403	Copy Preparation II	2	4	4
SEC 3404	Typing I	3	2	4
TRN 3451	Traffic Management	3	2	4

FOURTH QUARTER

PRN 5301	Printing Management	3	0	3
PRN 5303	Printing Estimating I	3	0	3
PRN 5409	Color Reproduction	2	4	4
PRN 5704	Printing Applications II OR	2	15	7
PRN 5381	Printing Applications II - Part A	1	6	3
PRN 5282	Printing Applications II - Part B	1	3	2
PRN 5283	Printing Applications II - Part C	0	6	2
	OR			
PRN 5207	Co-Op Lab Elective	0	20	2
		—	—	3
	Total Cr. Hrs. with Co-op Lab Option			15
	Total Cr. Hrs. with Printing Applications Option			20

CPCC was formed from a merger of Charlotte's Mecklenburg College, a liberal arts and trades institution and the Central Industrial Education Center for vocational training which was housed in the former Central High School near the center of Charlotte.

Graphic Arts Management

The Graphic Arts Management curriculum at Central Piedmont Community College is designed to provide an overview of the graphic arts industry with training in major areas of lithographic preparation, printing, and management/supervision for the graphic arts industry. This program is also designed for those who wish to upgrade their skills in specific areas within the curriculum. The student may couple graphic arts theory with on campus laboratory experiences, augmented by cooperative industrial training. In addition to a general introduction to graphic arts and other related courses, specific training will be offered in the following areas: typesetting, copy preparation, offset stripping, platemaking, camera, press applications, management and supervision. Persons completing this program will be awarded an Associate in Applied Science Degree.

Suggested Sequence of Required Courses for the Graphics Arts Management Program

FIRST QUARTER

COM 1304	Intro. to Communication	3	0	3
HSA 5200	Human Relations	2	0	2
PRN 5369	Intro. to Graphic Arts	3	0	3
PRN 5401	Copy Preparation I	2	4	4
PRN 5402	Basic Calculations for Printers	4	0	4
	Technical Elective	—	—	3
				19

THIRD QUARTER

BUS 1400	Introduction to Business	3	2	4
COM 3306	Communications III	3	0	3
PRN 5315	Process Camera II	2	2	3
PRN 5425	Offset Press II	2	4	4
PRN 5435	Offset Stripping II	2	4	4
				18

FIFTH QUARTER

BUS 2304	Business Law	3	0	3
PRN 4337	Color Separation Techniques and Theory	2	2	3
PRN 5313	Typesetting I	2	2	3
PRN 5700	Printing Applications I OR	2	15	7
PRN 5371	Printing Applications I - Part A	1	6	3
PRN 5272	Printing Applications I - Part B	1	3	2
PRN 5273	Printing Applications I - Part C	0	6	2
	Technical Elective	—	—	3
				19

FOURTH QUARTER

PRN 5301	Printing Management	3	0	3
PRN 5303	Printing Estimating	3	0	3
PRN 5409	Color Reproduction	2	4	4
PRN 4311	Printing Sales	3	0	3
	Electives - General Education	6	0	6
				19

SECOND QUARTER

COM 3305	Communications II	3	0	3
PRN 5310	Paper and Ink	3	0	3
PRN 5314	Process Camera I	2	2	3
PRN 5365	Stripping I and Platemaking	2	2	3
PRN 5424	Offset Press I and Bindery	2	4	4
				16

SIXTH QUARTER

MGT 2314	Business Management	3	0	3
MGT 4303	Labor Law	3	0	3
MGT 4330	Supervision	3	0	3
PRN 5704	Printing Applications II OR	2	15	7
PRN 5381	Printing Applications II - Part A	1	6	3
PRN 5282	Printing Applications II - Part B	1	3	2
PRN 5283	Printing Applications II - Part C	0	6	2
	OR			
PRN 5207	Co-op Lab Elective - General Education	0	20	2
		3	0	3
				14
	Total Cr. Hrs. with Co-op Option			14
	Total Cr. Hrs. with Printing Applications Option			19

CONTINUED

RECOMMENDED

GENERAL EDUCATION ELECTIVES

ART	1307	Basic Photography	2	2	3
ART	1324	Design I	0	6	3
ECO	3300	Introduction to Economics	3	0	3
JOU	1300	Practical Journalism	2	3	3
PSY	2504	General Psychology	5	0	5
SPH	1300	Oral Communications	3	0	3
SPH	2304	Public Speaking	3	0	3

RECOMMENDED TECHNICAL ELECTIVES

ACC	1604	Principles of Accounting I	5	2	6
BUS	2305	Business Law II	3	0	3
BUS	2306	Business Law III	3	0	3
BUS	3300	Human Relations in Business	3	0	3

BUS	3304	Business Statistics	3	0	3
EDP	3300	Introduction to Computer Concepts	3	0	3
FIN	4334	Business Finance I	3	0	3
MGT	4333	Production Planning & Control	3	0	3
MKT	1304	Marketing	3	0	3
MKT	4322	Purchasing	3	0	3
PRN	5316	Production Screen Printing	2	2	3
PRN	5317	Typesetting II	2	2	3
PRN	5390	Individual Study	3	0	3
PRN	5403	Copy Preparation II	2	4	4
SEC	3404	Typing I	3	2	4
TRN	3451	Traffic Management	3	2	4
VCO	3304	Photography I	2	2	3
VCO	4304	Typography and Lettering I	2	2	3

Health Record Clerk

The Health Record Clerk is a person trained to work in a variety of jobs in facilities where health records are used and maintained. In the physician's office or clinic the Health Record Clerk could assume the position of a medical clerk, receptionist, or insurance clerk. In a hospital setting the Health Record Clerk might work in the medical records department or as a unit/ward clerk, admission clerk, or in the insurance department.

DESCRIPTION OF CURRICULUM

This curriculum at Central Piedmont Community College is a two-quarter program. It is designed to give the student basic knowledge necessary to work in a clerical area of a health care facility.

Suggested Sequence of Required Courses for the Health Record Clerk Program

FIRST QUARTER						SECOND QUARTER					
COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	CLS	LAB CR				HRS/WK	CLS	LAB CR
MRT	3205	Health Record Procedures I	1	2	0 2	MRT	3206	Health Records Procedures II	1	2	0 2
MED	3304	Medical Terminology	3	0	0 3	HRC	5401	Unit Clerk Procedures	2	4	0 4
SEC	3404	Typing	3	2	0 4	HRC	5400	Receptionist Skills	2	4	0 4
HRC	5300	Orientation to Health Record Clerk	2	2	0 3	HRC	5200	Professional Interactions for Health Workers	2	0	0 2
					12						12

Horticulture

DESCRIPTION OF CURRICULUM

The purpose of this program is to prepare the student for entry level employment in various horticultural businesses such as nurseries, grounds maintenance businesses and landscape firms. The student is trained by the use of classroom demonstrations, laboratory projects and cooperative work experiences. This program emphasizes practical "hands-on" training in the following areas:

Plant Materials
Nursery Procedures
Landscape Gardening

Grounds Maintenance
Plant Propagation
Turf Management

A student completing this program should be able to fill the following positions:

Nursery Worker
Nursery and Garden Center Salesperson
Grounds Maintenance Assistant
Landscape Worker

Private Gardener
Greenhouse Salesperson
Groundskeeper

Students completing this program will be qualified for a diploma in Horticulture.

Suggested Sequence of Required Courses for the Horticulture-Diploma Program

FIRST QUARTER						SECOND QUARTER					
COURSE TITLE			QTR			COURSE TITLE			QTR		
			HRS/WK	CLS	LAB CR				HRS/WK	CLS	LAB CR
BIO	1501	General Botany	3	4	0 5	COM	1304	Intro. to Communication	3	0	0 3
HOR	3503	Nursery Technology	3	4	0 5	HED	1204	First Aid I	1	2	0 2
HOR	3400	Landscape Plants I: Woody	3	2	0 4	HOR	3504	Grounds Maintenance I	3	4	0 5
HOR	3404	Landscape Plants II: Woody & Herbaceous	3	2	0 4	HOR	3302	Landscape Graphics & Measurements	2	2	0 3
					18	PME	5211	Small Engine Repair I	1	3	0 2
											15

THIRD QUARTER

FIN 3314	Business Mathematics I	3	0	0	3
SPH 1300	Oral Communications	3	0	0	3
HOR 3505	Landscape Gardening	3	4	0	5
HOR 3410	Turf Management	2	4	0	4
HOR 3405	Grounds Maintenance II	2	4	0	4
					19

FOURTH QUARTER

HOR 3205	Cooperative Work Experience	0	0	20	2
HOR 4200	Co-Op Seminar	2	0	0	2
HOR 3401	Plant Propagation I	2	4	0	4
*	Approved Electives	—	—	—	4
					12
Total Quarter Credits Required					64

*Elective must be approved by Program Director or Program Counselor and should be selected from:

ACC 3500	Small Business Accounting
BIO 1500	Biological Science
BIO 2300	Genetics
BIO 2500	Introduction to Entomology
BIO 2504	Selected Topics in Biology
BUS 1400	Introduction to Business
CHM 1500	Introduction to Chemistry I

EDP 3404	Microcomputer Programming - Basic
PME 5214	Small Engine Overhaul
PME 5220	Chain Saw Repair
HOR 3202	Home & Yard Horticulture
HOR 3307	Landscape Your Own Home
HOR 3312	Indoor Plants
HOR 4411	Greenhouse Horticulture

Horticulture Technology

DESCRIPTION OF CURRICULUM

The Horticulture Technology curriculum encompasses the study and practical application of many varied subjects in the field of horticulture. The curriculum consists of identifying and selecting plant materials; propagating, planting, and growing plants; designing basic landscapes and planting materials at the appropriate places and in the correct manner; properly maintaining plant materials; and managing the nursery, greenhouse, and garden center. In addition, skills are developed in designing and building planters, walks, patios, fences, and other landscape features. The curriculum is designed to provide subjects with the knowledge, skills and attitudes that are necessary for independent, creative thinking essential to success in this field.

Various types of employers hire the graduates of this curriculum: nurseries, greenhouse operations, garden centers, landscape contractors, landscape maintenance companies, and municipal governmental agencies. The employee is usually required to carry out various responsibilities depending upon the needs of the employer.

CAREER OPPORTUNITIES

Major jobs for which this curriculum is designed to prepare include:

Entry Level Jobs

Garden Center Worker
Greenhouse Worker
Groundskeeper
Landscape Construction Worker
Landscape Worker
Lawn-Service Worker
Nursery Worker
Plant Propagator
Salesperson, Horticultural & Nursery Products
Tree Pruner

Advanced Level Jobs

Greenhouse Superintendent
Horticultural Specialty
Grower, Field
Horticultural - Specialty Grower - Inside
Landscape Drafter
Landscape Gardener
Nursery Manager

Students completing this program will be awarded an Associate in Applied Science Degree in Horticulture Technology.

Suggested Sequence of Required Courses for the Horticulture Technology Program

		QTR						QTR			
COURSE TITLE		HRS/WK HRS				COURSE TITLE		HRS/WK HRS			
FIRST QUARTER		CLS	LAB	CR		SECOND QUARTER		CLS	LAB	CR	
BIO 1501	General Botany	3	4	0	5	COM 1304	Intro. to Communication	3	0	0	3
HOR 3503	Nursery Technology	3	4	0	5	HED 1204	First Aid I	1	2	0	2
HOR 3400	Landscape Plants I: Woody	3	2	0	4	HOR 3504	Grounds Maintenance I	3	4	0	5
HOR 3404	Landscape Plants II: Woody & Herbaceous	3	2	0	4	HOR 3302	Landscape Graphics & Measurements	2	2	0	3
					18	PME 5211	Small Engine Repair I	1	3	0	2
											15
THIRD QUARTER						FOURTH QUARTER					
FIN 3314	Business Mathematics I	3	0	0	3	BIO 2500	Intro. to Entomology	3	4	0	5
SPH 1300	Oral Communications	3	0	0	3	HOR 3401	Plant Propagation I	2	4	0	4
HOR 3505	Landscape Gardening	3	4	0	5	HOR 3312	Indoor Plants	2	2	0	3
HOR 3410	Turf Management	2	4	0	4	*	Approved Elective	3	4	0	3.5
HOR 3405	Grounds Maintenance II	2	4	0	4						15-17
					19						

Career Programs

FIFTH QUARTER

COM 3305	Communications II	3	0	0	3
CHM 1500	Introductory Chemistry I	3	4	0	5
HOR 4300	Arboriculture	2	2	0	3
BUS 3300	Human Relations in Business	3	0	0	3
					14

SEVENTH QUARTER

HOR 4404	Plant Propagation II	2	4	0	4
HOR 4200	Co-Op Seminar	2	0	0	2
HOR 3205	Cooperative Work Experience (Co-op)	0	0	20	2
†	Open Elective	—	—	—	3
					11

SIXTH QUARTER

ACC 3500	Small Business Accounting	5	0	0	5
COM 3306	Communications III	3	0	0	3
†	General Education Elective	3.5	0	0	3.5
HOR 4411	Greenhouse Horticulture	2	4	0	4
HOR 4100	Horticulture Seminar	1	0	0	1
					16-18

*Elective must be approved by Program Director or Program Counselor and should be selected from:

EDP 3404	Microcomputer Programming Basic	3	2	4
BIO 1500	Biological Science	3	4	5
BIO 2300	Genetics	3	0	3
BIO 2504	Selected Topics in Biology	3	4	5
BUS 1400	Introduction to Business	3	2	4
MGT 3303	Small Business Management	3	0	3

Total Quarter Credits Required 108-112

†General Education Elective must be selected from the areas of Communications, Social Science, and/or Humanities.

‡Open Elective may be selected from any technical or college transfer course.

Hotel/Restaurant Management

The hospitality industry represents one of the fastest growing industries in the nation. With this tremendous growth, many career positions offer a future of challenge and personal satisfaction. This program is designed to equip the student with a strong basic knowledge of what transpires behind the gleaming facades of hotels and behind the crystal sparkle of the romantic atmosphere of restaurants.

This program is designed to assist the student entering the field to adapt to its problems and become a part of the many employees who are dedicated to serving the public and to making the hotel and restaurant industry a better field in which to work. Careers are available in hotels, motels, country clubs, cruise ships and restaurants. Upon receiving an Associate in Applied Science degree in Hotel Restaurant Management, the student will be qualified to fill such positions as: General Manager, Assistant Manager, Food and Beverage Manager, Sales Director, Convention Manager, Executive Housekeeper, Shift Supervisor, Front Desk Personnel and other varied and interesting positions.

REQUIRED COURSES

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

COURSE TITLE	QTR		
	HRS/WK	HRS	CLS LAB CR
HRM 3300 Introduction to Hotel/Restaurant Mgt.	3	0	3
ACC 1604 Principles of Accounting I	5	2	6
COM 1304 Introduction to Communication	3	0	3
HRM 3104 Speaker Seminar I	1	0	1
FIN 3314 Business Mathematics I	3	0	3
ECO 3300 Introduction to Economics	3	0	3
ACC 3434 Hotel/Restaurant Accounting	3	2	4
COM 3305 Communications II	3	0	3
HED 1204 First Aid I	1	2	2
MGT 4332 Personnel Management I	3	0	3
BUS 3300 Human Relations in Business	3	0	3
FSO 3504 Food Preparation I	2	9	5
SPH 1300 Oral Communications	3	0	3
HRM 3301 Financial & Legal Aspects of Innkeeping	3	0	3
SOC 1301 Group Interaction	3	0	3
END 4201 Color Schemes for Interior Design	1	2	2
HRM 4804 Hotel Restaurant Practicum I	3	15	8
FSO 4304 Food & Labor Controls	3	0	3
HRM 4300 Hotel Restaurant Marketing	3	0	3
HRM 4301 Housekeeping Procedures	3	0	3
HRM 4805 Hotel Restaurant Practicum II	3	15	8
BUS 2304 Business Law I	3	0	3
EDP 3405 Microcomputer Programming - Basic	3	2	4
HRM 4806 Hotel Restaurant Management Practicum III	3	15	8
HRM 4302 Hotel Restaurant Management Related Problems	3	0	3
INS 3341 Property & Casualty Insurance OR	3	0	3
INS 3340 Principles of Risk & Insurance			
SPH 2101 Parliamentary Procedure	1	0	1
HRM 4200 Individual Study	2	0	2
Electives	—	—	3
			102

North Carolina has 58 community colleges. CPCC is the largest with over 26,000 students the last quarter of 1981.

CPCC's money comes mainly from four sources: state and federal (69%); county (16%); tuition (12%); and contributions (3%).

Human Services Associate

CHILD DEVELOPMENT CASEWORK AND OUTREACH INTERPRETER TRAINING

The Human Services Associate is a paraprofessional working in a variety of social, community and educational services. The Associate uses the knowledge and understanding of human behavior, group dynamics, and psycho/social processes, coupled with the use of appropriate helping skills, to work effectively with people.

DESCRIPTION OF CURRICULA

The Human Services curriculum offers three fields of specialization for the Human Services Associate. Each specialization, **Casework and Outreach**, **Child Development**, and **Interpreter Training**, offers students a unique two-year program to enable them to work with specialized client populations. Clinical internships in a variety of community agencies enable students to gain specialized experience to parallel the classroom work.

HUMAN SERVICE ASSOCIATE CORE COURSES (Required of all Human Service students)

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
HSA 3501 Introduction to HSA	5	0	0	5
HSA 3502 Interpersonal Relationships I	5	0	0	5
HSA 3340 Client Group Dynamics	3	0	0	3
HSA 3341 Interpersonal Relationships II	3	0	0	3
HSA 4608 Seminar	1	0	15	6
				22

General Education Requirements for Child Development Specialization

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
COM 1304 Intro. to Communications	3	0	0	3
COM 3305 Communications II	3	0	0	3
COM 3306 Communications III	3	0	0	3
SOC 1500 Sociology of the Family (or approved substitute)	5	0	0	5
HED 1204 First Aid I	1	2	0	2
MUS 1304 Children's Music I	3	0	0	3
				19
				TOTAL 99

CHILD DEVELOPMENT

With the expansion of child care facilities, public and private child care centers are looking for personnel specially trained in effective care of children.

The Child Development Program in Human Services prepares students with the knowledge and skills to work well with children in various stages of development. The program is based on helping each child achieve his or her full potential.

Course Requirements for Child Development Specialization

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
HSA 5501 Child Development	3	0	6	5
HSA 5500 Practical Problems of Child Care I	3	0	6	5
HSA 3311 Materials and Activities for Young Child	3	0	0	3
HSA 4510 Health and Safety of Young Child	4	0	3	5
HSA 4310 Adult/Child Relations	3	0	0	3
HSA 4614 Practical Problems of Child Care II	2	0	12	6
HSA 3503 Introduction to Day Care Administration	3	0	6	5
HSA 3310 The Exceptional Child	3	0	0	3
HSA 4500 Working With Parents	3	0	6	5
HSA 3312 Education for Young Child	3	0	0	3
HSA 3525 Advanced Materials and Activities for the Young Child	5	0	0	5
HSA 3511 Infant/Toddler Development	3	0	6	5
HSA 3510 School Age Child Care	3	0	6	5
				58
Core Credits				22
TOTAL				80

CASEWORK AND OUTREACH

A variety of community agencies are utilizing paraprofessionals in a number of positions. The Casework and Outreach Associate works primarily with clients in assessing their needs and helping them to attain the services required to fulfill those needs. The Associate may work in social work and welfare facilities, schools, personnel offices, hospitals, neighborhood centers, and special service centers.

Course Requirements for Casework and Outreach Specialization

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
HSA 4511 Introduction to Social Welfare	5	0	0	5
HSA 3600 Community Organization and Casework Preparation	3	0	9	6
HSA 4301 Helping Relationship: Theory	3	0	0	3
HSA 3604 Helping Relationship: Technique	3	0	9	6
HSA 3414 Helping Relationship: Advanced Technique	3	0	3	4
HSA 3421 Helping and Behavioral Stress	4	0	0	4
HSA 3322 Human Sexuality in the Helping Skills	3	0	0	3
				31
Core Credits				22
TOTAL				53

Career Programs

General Education Requirements for Casework and Outreach Specialization

	COURSE TITLE	HRS/WK	QTR		
			CLS	LAB	CR
COM 1304	Intro. to Communication	3	0	0	3
COM 3305	Communications II	3	0	0	3
COM 3306	Communications III	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
PSY 2505	Human Development	5	0	0	5
PSY 2514	Abnormal Psychology	5	0	0	5
SOC 2514	Introduction to Sociology	5	0	0	5
SOC 2515	Social Problems	5	0	0	5
HED 1204	First Aid I	1	2	0	2
BIO 3600	Basic Health Science	5	2	0	6
SEC 3400	Typing I	3	2	0	4
MED 3304	Medical Terminology and Vocabulary I	3	0	0	3
					49
TOTAL					102

INTERPRETER TRAINING

The Interpreter Training Program is affiliated with the National Interpreter Training Consortium and follows the guidelines of the Registry of Interpreters for the Deaf.

The primary purpose of the curriculum is to increase the number of qualified interpreters by upgrading the skills of persons who are now acting as interpreters and by training people who have had no previous experience as interpreters for the deaf.

Course Requirements for the Interpreter Training Specialization

	COURSE TITLE	HRS/WK	QTR		
			CLS	LAB	CR
HSA 3402	Sign Language I	3	2	0	4
HSA 3404	Sign Language II	3	2	0	4
HSA 3405	Sign Language III	3	2	0	4
HSA 3514	Introduction to Interpreting	2	6	0	5
HSA 3515	Interpreting II	2	6	0	5
HSA 3516	Interpreting III	2	6	0	5
HSA 3517	Reverse Interpreting I	2	6	0	5
HSA 4304	Orientation to Deafness	3	0	0	3
HSA 4300	Hearing and Deafness	3	0	0	3
					38
Electives (to be approved by advisor)					23
Core Credits					22
TOTAL					83

General Education Requirements for Interpreter Training Specialization

	COURSE TITLE	HRS/WK	QTR		
			CLS	LAB	CR
COM 1304	Intro. to Communications	3	0	0	3
COM 3305	Communications II	3	0	0	3
COM 3306	Communications III	3	0	0	3
PSY 2504	General Psychology	5	0	0	5
SOC 2514	Introduction to Sociology	5	0	0	5
					19
TOTAL					102

IN-SERVICE TRAINING

The Department of Human Services offers to the community a variety of curriculum and extension courses from its regular on-campus curricula. Such courses can be brought to a community agency and tailored for the agency's particular needs. An agency interested in a course from the various Human Services curricula should contact the appropriate Program Director.

Child Development In-Service

HSA 3310	The Exceptional Child
HSA 3311	Materials and Activities for the Young Child
HSA 3312	Education of the Young Child
HSA 3350	Growth and Development of Mothers and Fathers
HSA 3360	Understanding Adolescence
HSA 3370	Practical Problems in Family Living
HSA 3380	The Growing Child
HSA 3503	Introduction to Day Care Administration
HSA 3510	The Exceptional Child
HSA 3511	Infant/Toddler Development
HSA 3525	Advanced Materials and Activities for the Young Child
HSA 3534	Advanced Day Care Administration
HSA 4310	Adult/Child Relations
HSA 4500	Working with Parents
HSA 4510	Health and Safety of the Young Child
HSA 4614	Practical Problems of Child Care II
HSA 5500	Practical Problems of Child Care I
HSA 5501	Child Development

CDA Training

HSA 5510	CDA I	—	Setting Up and Maintaining A Healthy Learning Environment
HSA 5511	CDA II	—	Advancing Physical and Intellectual Competence
HSA 5512	CDA III	—	Building Positive Self Concept and Individual Strength
HSA 5513	CDA IV	—	Organizing and Sustaining the Positive Functioning of Children and Adults in a Group in a Learning Environment
HSA 5514	CDA V	—	Bringing About Optimal Coordination of Home and Other Child-Rearing Practices and Expectations
HSA 5515	CDA VI	—	Carrying Out Supplementary Responsibilities Related to the Children's Programs

Casework and Outreach In-Service

HSA 3202	Crisis Intervention
HSA 3322	Human Sexuality in the Helping Skills
HSA 3323	Legal Aspects of Social Welfare
HSA 3414	Helping Relationship: Advanced Technique
HSA 3415	Helping Relationship: Management Skills
HSA 3421	Helping and Behavioral Stress
HSA 3600	Community Organization and Casework Preparation
HSA 3604	Helping Relationship: Technique
HSA 4103	Stress Management
HSA 4524	Helping Interview I
HSA 4525	Helping Interview II
HSA 5200	Human Relations
HSA 5302	Interpersonal and Helping Skills in the Professional Community

Interpreter Training In-Service

HSA 3110	Sign Language for Emergency/Medical Personnel
HSA 3402	Sign Language I
HSA 3404	Sign Language II
HSA 3405	Sign Language III

EARLY CHILDHOOD AIDE CERTIFICATE PROGRAM

The Child Development Program also offers an **Early Childhood Aide Certificate Program** to qualify a graduate as a teacher aide. The Aide Certificate Program may be used as credit toward the child development degree providing an opportunity for career mobility and upgrading.

Specialized Course Requirements for the Early Childhood Aide Certificate

HSA 3311	Materials and Activities for Young Child	3	0	0	3
HSA 5200	Human Relations	2	0	0	2
HSA 5500	Practical Problems of Child Care I	3	0	6	5
HSA 5501	Child Development	3	0	6	5

General Education Requirements for Early Childhood Aide Certificate

COURSE TITLE				QTR	
				HRS/WK	HRS
				CLS	LAB CR
COM 5500	Communications Skills	5	0	0	5

CDA TRAINING

In addition to the regular curriculum, the Child Development Program is able to provide training toward the Child Development Associate Credential, a competency-based credential. The training package, entitled CDA I-VI, is designed to provide twenty-three weekly hours of individualized assistance to groups of people preparing for the official credentialing procedure established by the Office of Child Development in Washington. For additional information contact the Child Development Program Director.

THE OLDER ADULT PROGRAM

The primary goal of the Older Adult Program is to provide direct educational services to older adults in Mecklenburg County. Older adults must be over age sixty-five in order to attend classes without paying tuition. Those under age sixty-five may request assistance from the Older Adult Program Director. Older students may attend classes on the main campus or in any of the off-campus locations within the community.

Special classes may be set up at churches or community centers.

Industrial Safety, Health, Security and Investigations

Industrial Safety, Health, Security and Investigations are rapidly emerging as unique fields of study. They are developing concurrently with such occupational fields as fire science, law enforcement and similar programs. The rising crime rate and the attention focused around the protection of workers by implementation of the Occupational Safety and Health Act, Toxic Substance Control Act, Consumer Products Safety Act, and numerous other federal and state laws have generated an unprecedented rise in the demand for fully qualified personnel in these fields.

The curriculum centers around the four specialty areas. In the future, persons will be needed who are trained in these compatible and often overlapping disciplines. This training will provide industrial, government and employers at all levels with a ready pool of individuals capable of leading programs in safety, health, security and investigations.

It is estimated that less than ten percent of potential employers of this group have adequate programs at the present. As regulations are more stringently enforced, an ever increasing number of qualified employees for industrial safety, health, security and investigations will be required.

DESCRIPTION OF CURRICULUM

This curriculum is intended to prepare those individuals who will be employed or involved in the fields of industrial safety, health, security and investigations to meet the needs of many different situations. It will provide individuals with a well-rounded educational background in preparation for a professional career or further study. Completion of the recommended curriculum will meet the requirements for the degree of Associate in Applied Science. Classes are scheduled to provide opportunity for students to attend day or evening sessions.

CORE TECHNICAL COURSES:**(taken by all students)**

COURSE TITLE				QTR	
				HRS/WK	HRS
				CLS	LAB CR
SSH 3500	Introduction to Loss Prevention	3	0	3	
PSC 3510	Criminal Law	5	0	5	
PSC 4501	Constitutional Law	5	0	5	
SSH 4510	Principles of Interviewing and Interrogation	5	0	5	
LEX 4321	Tort Law	3	0	3	
PSC 3504	Crime Scene Technology	4	2	5	
SSH 3301	Principles of Industrial Management	3	0	3	
PSC 4505	Criminal Investigation	5	0	5	
PSC 4520	Public Relations	5	0	5	
	Technical Electives	—	—	10	
				49	

GENERAL EDUCATION COURSES:**(taken by all students)**

COURSE TITLE				QTR	
				HRS/WK	HRS
				CLS	LAB CR
COM 1304	Introduction to Communications	3	0	3	
COM 3305	Communications II				
	Or				
COM 1305	English Composition II	3	0	3	
COM 3306	Communications III				
	Or				
COM 1306	English Composition III	3	0	3	
SPH 1301	Persuasive Speaking	3	0	3	
	Any courses selected from the following prefixes: POL, SOC, SPH, LIT, MAT, LAN, HUM, HIS, PSY.	—	—	6	
				18	

CONTINUED

Career Programs

FIELDS OF SPECIALIZATION

(Choose One Area)

SAFETY:

EDP 3300	Intro. To Computer Concepts	3	0	3
SSH 4511	Nuclear Safety	5	0	5
SSH 3501	Introduction to Principles of Safety	4	2	5
SSH 3504	Occupational Safety and Health I	4	2	5
FIP 4304	Arson Detection and Investigation	3	2	4
SSH 4304	Special Problems in Industrial Safety	2	2	3
SSH 4501	Industrial Hygiene and Toxicology	4	2	5
SSH 3505	Occupational Safety and Health II	4	2	5
		—	—	35

SECURITY:

EDP 3300	Introduction to Computer Concepts	3	0	3
SSH 4512	Nuclear Security	5	0	5
SSH 4513	Computer Security	5	0	5
SSH 3304	Access Controls and Loss Prevention	3	0	3
SSH 3503	Retail Security	5	0	5
SSH 4514	Electronics for Security	5	0	5
SSH 4504	Security Problems and Practices I	5	0	5
PSC 4506	Advanced Crime Scene Technology	4	2	5
		—	—	36

INVESTIGATIONS:

SSH 4515	Executive Protection and Terrorism	5	0	5
*PSC 4504	Criminal Procedures and Rules of Evidence	5	0	5
PSC 4506	Advanced Crime Scene Technology	4	2	5
†SSH 4290	Cooperative Education I	0	20	2
†SSH 4291	Cooperative Education II	0	20	2
SSH 4514	Electronics for Security	5	0	5
SSH 4513	Computer Security	5	0	5
BUS 1400	Introduction to Business	3	2	4
INS 3341	Property and Casualty Insurance	3	0	3
BUS 2304	Business Law I	3	0	3
		—	—	39

† Required for those applying for Private Detective License, elective for others.

TOTAL HOURS OF CREDIT REQUIRED FOR DEGREE:

SAFETY = 102 CREDIT HOURS;

SECURITY = 103 CREDIT HOURS;

INVESTIGATIONS = 106 CREDIT HOURS.

RECOMMENDED ELECTIVES: Any course in the following programs:

PSC Police Science Program

INS Insurance

LEX Paralegal Technician Program

ADDITIONAL APPROVED LIST OF ELECTIVES

ACC 1604	Principles of Accounting I
BIO 1500	Biological Science
BUS 1400	Introduction to Business
BUS 2304	Business Law I
BUS 2305	Business Law II
CHM 1504	General Chemistry I
EDP 3300	Introduction to Computer Concepts
HED 1100	Health Education I
HED 1201	Special Health Problems
HED 1204	First Aid I
HED 1205	First Aid II
MAT 2514	Statistics I
PHY 1404	Intro. to Physics I: Basic Mechanics
PHY 2504	General Physics I: Mechanics
PSC 4310	Self Defense & Weaponry
SEC 3404	Typing I
SSH 3302	Hotel & Motel Security
SSH 3304	Access Controls & Loss Prevention
SSH 3503	Retail Security
VCO 3304	Photography I

NOTE: Full-time students may obtain a course/quarter sequence sheet from the counselor or advisor.

Interior Design

More than ever our interior spaces are being developed for a sophisticated society, living and working in residential, business, and institutional interiors. The purpose of this program is to train people to develop the interiors of today and tomorrow.

DESCRIPTION OF CURRICULUM

Using a variety of teaching-learning techniques, the Interior Design program at Central Piedmont Community College equips students with the necessary skills and knowledge to work in a variety of interior design work situations. The intent of this program is to qualify the graduating student to enter the interior design field at a para-professional level.

The curriculum emphasizes the development, selection, and arrangement of the elements of interiors of both residential and commercial buildings. The first three quarters are a foundation of drawing, design, architectural drafting and introduction to art. The last three quarters emphasize a variety of interior planning problems, art history, advanced architectural drafting, business practices, and portfolio development.

Suggested Sequence of Required Courses for the Interior Design Program

FIRST QUARTER				SECOND QUARTER			
COURSE TITLE				COURSE TITLE			
HRS/WK HRS				HRS/WK HRS			
CLS LAB CR				CLS LAB CR			
ART 1300	Introduction to Art I	3	0 3	ART 1301	Introduction to Art II	3	0 3
ART 1304	General Drawing I	0	6 3	ART 1305	General Drawing II	0	6 3
ART 1324	Design I	0	6 3	ART 1325	Design II	0	6 3
VCO 4100	Seminar I	1	0 1	ART 1384	Basic Camera Techniques	3	0 3
FIN 3314	Business Mathematics I	3	0 3	ARC 3334	Architecture Drafting I (Basic)	1	6 3
COM 1304	Intro. to Communications	3	0 3	VCO 4104	Seminar II	1	0 1
		10	12 16	COM 3305	Communications II	3	0 3
						11	18 19

THIRD QUARTER

*ART	Elective	2	2	3
ART 1306	General Drawing III	0	6	3
ART 1326	Design III	0	6	3
ARC 3303	Interior Design Drafting I	1	6	3
MKT 3320	Fundamentals of Selling	3	0	3
	General Elective	<u>3</u>	<u>0</u>	<u>3</u>
		9	20	18

*For specific electives, contact Program Director and/or Division Head.

FIFTH QUARTER

ARC 3200	Introduction to Architecture	2	0	2
*ART 1311	History of Art II	3	0	3
EDN 4415	Applied Problems Studio II	2	4	4
EDN 4307	Survey of Materials	1	4	3
EDN 4203	Period Furn. & Furnishings	<u>2</u>	<u>0</u>	<u>2</u>
		10	8	14

FOURTH QUARTER

EDN 4300	Survey of Interior Design	3	0	3
ARC 3304	Interior Design Drafting II	1	6	3
EDN 4414	Applied Problems Studio I	2	4	4
EDN 4404	Interior Presentations	2	4	4
ART 1310	History of Art I	<u>3</u>	<u>0</u>	<u>3</u>
		11	14	17

SIXTH QUARTER

EDN 4406	Contemporary Interiors	2	4	4
EDN 4400	Professional Practices & Procedures	2	4	4
EDN 4416	Applied Problems Studio III	2	4	4
EDN 4202	Thesis	0	4	2
	General Elective	<u>3</u>	<u>0</u>	<u>3</u>
		9	16	17

*ART 1312 History of Art III may be substituted without Divisional approval.

Machinist

MACHINE TOOL TRADES

Modern manufacturing procedures require the service of well-trained machinists to operate and maintain machine tools at peak efficiency. These highly-skilled persons transform a piece of metal into an intricate part, meeting precise requirements. Wages are high, and for persons willing to work, the rewards of learning the machine tool trades are unlimited.

DESCRIPTION OF CURRICULUM

The Machinist curriculum at Central Piedmont Community College is designed to provide an opportunity to gain entry level employment in this rewarding occupation.

Emphasis is placed on the basic operations which can be performed on engine lathes, milling, and grinding machines. Instruction in layout procedures and the use of hand tools is also provided. Possessing those fundamental skills, the student in the machine tool trades is able to become a valued member of this growing industry. A diploma is awarded upon completion of the program.

Suggested Sequence of Required Courses for the Machinists (Machine Tool Trades) Program

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
FIRST QUARTER			
MAC 5200 Precision Instrument Reading	2	0	2
MAC 5301 Blueprint Reading for Machinists I	3	0	3
MAC 5311 Basic Lathe Operations	1	6	3
MAC 5401 Basic Calculations for Machinists	4	0	4
MAC 5422 Basic Milling Operations	2	6	4
MEC 5214 Practical Metallurgy	<u>1</u>	<u>3</u>	<u>2</u>
			18

THIRD QUARTER

MAC 5315 General Machining and Maintenance	1	6	3
MAC 5426 Production Machine Tech.	2	6	4
COM 5500 Communication Skills	5	0	5
PHY 5304 Shop Science I	2	2	3
WLD 5210 Basic Oxyacetylene Welding	1	3	2
Elective	—	—	<u>3</u>
			20

RECOMMENDED ELECTIVES

DFT 3404 Technical Drafting	2	6	4
HED 1204 First Aid I	1	2	2
MAC 5304 Computer Numerical Control Programming I	2	2	3
MAT 3504 Technical Mathematics I	5	0	5
PME 5214 Small Engine Overhaul	1	3	2
WLD 5220 Basic Electric Arc Welding	1	3	2
WLD 5250 Basic Gas Metal Arc Welding	1	3	2

COURSE TITLE	QTR		
	HRS/WK	CLS	LAB CR
SECOND QUARTER			
MAC 5300 Introduction to Numerical Control Programming	3	0	3
MAC 5302 Blueprint Reading for Machinists II	3	0	3
MAC 5313 Layout, Hand Tool, and Drill Press Procedures	1	6	3
MAC 5424 Grinding Machine Operations	2	6	4
MEC 5215 Practical Metallurgy II	<u>1</u>	<u>3</u>	<u>2</u>
			15

FOURTH QUARTER

MAC 5307 Machine Tool Application I	0	9	3
MAC 5308 Machine Tool Application II	0	9	3
HSA 5200 Human Relations	2	0	2
MGT 5200 Shop Management	2	0	2
PHY 5305 Shop Science II	2	2	3
Elective	—	—	<u>3</u>
			16

Tuition, as set by the State Legislature, is \$3.25 per credit hour up to a ceiling of \$39 per quarter for in-state residents. Out-of-state students pay \$16.50 per credit hour up to a ceiling of \$198 per quarter.

Manufacturing Engineering Technology

Manufacturing Engineering Technology involves the planning of manufacturing methods and the design and practical application of tools, equipment, and processes of manufacturing. The manufacturing engineering technician is concerned with the planning, development, and optimization of production processes.

DESCRIPTION OF CURRICULUM

The Manufacturing Engineering Technology curriculum is a comprehensive program providing a basic background in the practical application of both fundamental and highly specialized manufacturing engineering technology principles. Courses in drafting, mechanical engineering technology, industrial engineering technology and manufacturing engineering technology — complemented by mathematics, physics, and communication — furnish students with progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized manufacturing, industrial, and mechanical engineering technology courses that provide concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry.

The program is designed to produce manufacturing engineering technicians skilled in assisting large and small industry in the planning of production processes and equipment, tooling, production of material goods, product and tool design, die design, time and motion study, plant layout, materials handling, inspection and quality control. Manufacturing Engineering Technology programs are similar to Industrial Engineering Technology programs except that manufacturing programs emphasize the process selection and methods of converting engineering design to finish products with less emphasis on industrial organization, management, statistics, and accounting.

CAREER OPPORTUNITIES

In our rapidly advancing high technology society, and with the vast industrial expansion of this region, the employment outlook for graduates in Manufacturing Engineering Technology is excellent. Many of these occupations are closely related to management in industry and can provide rewarding careers. In recent years the local demand for engineering technicians has significantly outnumbered the supply, thus causing expanding industries to import technicians from other areas of the country.

DEGREE

Upon successful completion of this curriculum, an Associate in Applied Science (A.A.S.) degree in Manufacturing Engineering Technology will be awarded. For more information call the Manufacturing Engineering Technology Program Director at (704) 373-6553 or the Technology Division Head at (704) 373-6557.

Suggested Sequence of Required Courses for the Manufacturing Engineering Technology Program

COURSE TITLE	QTR			SECOND QUARTER		
	HRS/WK	CLS	LAB CR			
FIRST QUARTER						
COM 1304 Intro. to Communication	3	0	3	COM 3304 Communications II	3	0 3
MAT 3507 Engr. Tech. Math. I	5	0	5	MAT 3508 Engr. Tech. Math. II	5	0 5
DFT 3404 Mechanical Drafting I	2	6	4	PHY 1404 Physics I: Basic Mechanics	3	2 4
MEC 3405 Machine Processes I	2	6	4	DFT 3405 Mechanical Drafting II	2	6 4
				MEC 3406 Machine Processes II	2	6 4
			16			20
THIRD QUARTER				FOURTH QUARTER		
COM 3306 Communications III	3	0	3	SPH 1300 Oral Communications	3	0 3
MAT 3509 Engr. Tech. Math. III	5	0	5	PHY 1406 Physics III: Electricity Magnetism	3	2 4
PHY 1405 Physics II: Elastic & Thermal Properties of Matter	3	2	4	MEC 4514 Physical Metallurgy I	4	3 5
EDP 3405 Microcomputer Programming - Basic OR				ISC 4400 Time & Motion Study	2	6 4
EDP 1404 Computer Concepts & Fortran Programming	3	2	4	General Education Elective*		3
ISC 4304 Production Planning	2	3	3			19
			19	SIXTH QUARTER		
FIFTH QUARTER				ISC 4314 Inspection & Quality Control	2	3 3
MEC 4304 Compound Angles	2	3	3	ISC 4405 Process Planning	2	6 4
MEC 4434 Hydraulics & Pneumatics	2	6	4	MEC 4404 Tool & Die Design	2	6 4
MEC 4515 Physical Metallurgy II	4	3	5	General Education Elective*	3	0 3
ISC 4404 Plant Layout & Materials Handling	2	6	4	Technical Elective†		4
Technical Elective†			4			18
			20	Total Quarter Hour Credits Required		112
				*General Education Electives must be chosen from the areas of Communications, Social Science, and/or Humanities.		
				†Recommended Technical Electives:		
				ELN 4415 Industrial Programmable Controllers		
				ELN 4525 Electrical Machines I		
				MEC 3524 Mechanics of Materials		
				MEC 4425 Thermodynamics		
				MEC 4405 Mechanisms		
				MEC 4508 Applied Mechanics		
				MEC 4604 Machine Design		

Marketing and Retailing

Charlotte and the Metrolina area is a major marketing/retailing center for goods and services, and opportunities await graduates of this program. Careers in this field are numerous and diversified and include market research, advertising, selling, distribution, purchasing, wholesaling, promotion, and retailing.

This curriculum is designed to provide students with an understanding of, and an ability to implement, effective marketing procedures. Emphasis is placed on application of marketing techniques through the use of case studies, simulation, role playing, and research.

GENERAL COURSE REQUIREMENTS

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
COM1304 Introduction to Communication†	3	0	3	
‡COM3305 Communications II	3	0	3	
‡COM3306 Communications III	3	0	3	
SPH 1300 Oral Communications	3	0	3	
ECO 2304 Economics I (Macro)	3	0	3	
ECO 2305 Economics II (Micro)	3	0	3	
ACC 1604 Principles of Accounting I	5	2	6	
ACC 1605 Principles of Accounting II	5	2	6	
BUS 1400 Introduction to Business	3	2	4	
BUS 2304 Business Law I	3	0	3	
BUS 2305 Business Law II	3	0	3	
BUS 3300 Human Relations in Business	3	0	3	
*FIN 3314 Business Mathematics I†	3	0	3	
MGT 2314 Principles of Management	3	0	3	
				49

SPECIALIZED COURSE REQUIREMENTS

MKT 1304 Marketing I	3	0	3
MKT 1305 Marketing II	3	0	3
MKT 3320 Fundamentals of Selling	3	0	3
MKT 4304 Wholesale/Manufacturing Distribution	3	0	3
MKT 4320 Retailing	3	0	3
MKT 4321 Advertising	3	0	3
MKT 4322 Purchasing	3	0	3
MKT 4306 Sales Managment	3	0	3
FIN 3315 Business Math II	3	0	3
BUS 3304 Business Statistics	3	0	3
CFM 4340 Consumer Credit	3	0	3
CFM 4341 Commercial Credit	3	0	3
INS 3340 Principles of Risk and Insurance	3	0	3
EDP 3405 Microcomputer Programming - Basic	3	3	4
EDP 3406 Programming Business Applications for Microcomputers	3	2	4
Electives	6	0	6
			53

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

*MAT 1504, 1505 or MAT 1514, 1515 may be taken if student has met requirements.

‡COM 1305 and 1306 may be taken if student has met requirements.



Mechanical Drafting

(subject to approval)

Mechanical Drafting involves the preparation of clear, complete, and accurate working drawings for manufacturing or engineering purposes. Mechanical drafters are concerned with detailing and/or layout design from specifications, rough or detailed sketches, engineering notes, and other design information.

DESCRIPTION OF CURRICULUM

The Mechanical Drafting curriculum is a comprehensive program designed to prepare students for entering the field of mechanical drafting.

Courses in mechanical drafting, engineering materials, machine processes, and practical metallurgy — complemented by mathematics, communication and physics — are arranged in sequence to develop progressive levels of job-related skills and knowledge. Drafters associate with many levels of industrial personnel — engineers, architects, engineering technicians, administrators, and skilled craftpersons — and must be able to communicate effectively.

Individuals completing the curriculum will be awarded a diploma in Mechanical Drafting.

Suggested Sequence of Required Courses for the Mechanical Drafting Program

				QTR								QTR			
COURSE TITLE				HRS/WK HRS				COURSE TITLE				HRS/WK HRS			
FIRST QUARTER				CLS	LAB	CR		SECOND QUARTER				CLS	LAB	CR	
COM	5500	Communication Skills I		5	0	5		COM	1304	Introduction to Communication		3	0	3	
MAT	5304	Basic Math I		3	0	3		MAT	5305	Basic Math II		3	0	3	
DFT	3404	Mechanical Drafting I		2	6	4		PHY	5304	Shop Science I		2	2	3	
MEC	3405	Machine Processes I		2	6	4		DFT	3405	Mechanical Drafting II		2	6	4	
						16		MEC	3406	Machines Processes II		2	6	4	
												17			
THIRD QUARTER								FOURTH QUARTER							
PHY	5305	Shop Science II		2	2	3		BUS	3300	Human Relations in Business		3	0	3	
DFT	3406	Descriptive Geometry		2	6	4		DFT	3508	Mechanical Drafting IV		2	9	5	
DFT	3507	Mechanical Drafting III		2	9	5		MEC	5214	Practical Metallurgy I		1	3	2	
MEC	3307	Engineering Materials		2	2	3		†	Technical Elective					3	
*		General Education Elective		—	—	3		†	Technical Elective					3	
						18									
												16			

Last year the Veterans Administration paid through us about \$5,000,000 to our 2,653 veterans and families. They in turn bought and traded and invested with you and your friends.

*General Education Elective must be selected from the areas of Communication, Social Science, or Humanities.

†Recommended Technical Electives:

DFT 3400 Electrical/Electronics Drafting
EDP 3405 Microcomputer Programming - Basic
ISC 4314 Inspection and Quality Control
ISC 4404 Plant Layout & Materials Handling
MEC 4434 Hydraulics and Pneumatics

NOTE: 3000 and 4000 technical level courses may be substituted for 5000 level courses.

Mechanical Engineering Technology

Mechanical Engineering Technology involves the practical applications of tool and machine design, manufacturing processes and techniques, and the transfer of mechanical forms of energy. The mechanical engineering technician is concerned with drafting, design, development, production, testing, operation, and/or maintenance of mechanical components, machines, and systems associated with today's products, processes, or services.

DESCRIPTION OF CURRICULUM

The Mechanical Engineering Technology curriculum is a comprehensive program providing a basic background in the practical application of both fundamental and highly specialized mechanical engineering technology principles. Courses in drafting and mechanical engineering technology — complemented by courses in mathematics, physics, and communication — give students progressive levels of job-related knowledge and skills. Students advance from basic courses to specialized courses that furnish concentrated study in the practical application of state-of-the-art technological knowledge and skills needed in today's high technology industry.

This program is designed to produce mechanical engineering technicians skilled in assisting large and small industry in drafting, product design, tool and die design, machine design, metallurgy, application of hydraulics and pneumatics, and planning machine processes.

CAREER OPPORTUNITIES

In our rapidly advancing high-technology society with the vast industrial expansion of this region, the employment outlook for graduates is excellent. Many of these occupations are closely related to management in industry and can provide rewarding careers. In recent years the local demand for engineering technicians has significantly outnumbered the supply, thus causing expanding industries to import technicians from other areas of the country.

DEGREE

Upon successful completion of the curriculum an Associate in Applied Science Degree (A.A.S.) in Mechanical Engineering Technology will be awarded. For more information call the Mechanical Engineering Technology Program Director at (704) 373-6553 or the Technology Division Head at (704) 373-6557.

Suggested Sequence of Required Courses for the Mechanical Engineering Technology Program

				QTR								QTR			
COURSE TITLE				HRS/WK	CLS	LAB	CR	COURSE TITLE				HRS/WK	CLS	LAB	CR
FIRST QUARTER								SECOND QUARTER							
COM	1304	Intro. to Communication		3	0	3		COM	3305	Communications II		3	0	3	
MAT	3507	Engr. Tech. Math. I		5	0	5		MAT	3508	Engr. Tech. Math. II		5	0	5	
DFT	3404	Mechanical Drafting I		2	6	4		PHY	1404	Physics I: Basic Mechanics		3	2	4	
MEC	3405	Machine Processes I		2	6	4		DFT	3405	Mechanical Drafting II		2	6	4	
						16		MEC	3406	Machine Processes II		2	6	4	
														20	
THIRD QUARTER								FOURTH QUARTER							
MAT	3509	Engr. Tech. Math. III		5	0	5		SPH	1300	Oral Communications		3	0	3	
PHY	1405	Physics II: Elastic & Thermal Properties of Matter		3	2	4		PHY	1406	Physics III: Electricity & Magnetism		3	2	4	
DFT	3406	Descriptive Geometry		2	6	4		MEC	3524	Mechanics of Materials		3	6	5	
MEC	4508	Applied Mechanics		3	6	5		MEC	4514	Physical Metallurgy I		4	3	5	
						18				*General Education Elective				3	
														20	
FIFTH QUARTER								SIXTH QUARTER							
EDP	3405	Microcomputer Programming - Basic OR						COM	3306	Communications III		3	0	3	
EDP	1404	Computer Concepts & Fortran Programming		3	2	4		MEC	4404	Tool & Die Design		2	6	4	
MEC	4425	Thermodynamics		3	3	4		MEC	4405	Mechanisms		2	6	4	
MEC	4434	Hydraulics & Pneumatics		2	6	4		MEC	4604	Machine Design		3	6	6	
MEC	4515	Physical Metallurgy II		4	3	5				†Technical Elective				3	
		*General Education Elective				3								20	
						20									
								Total Quarter Hour Credits Required							114
								*General Education Electives must be chosen from the areas of Communications, Social Science, and/or Humanities.							
								†Recommended Technical Electives:							
								DFT	3507	Mechanical Drafting III					
								DFT	3508	Mechanical Drafting IV					
								ELN	4415	Industrial Programmable Controllers					
								ELN	4525	Electrical Machines I					
								ISC	4304	Production Planning					
								ISC	4314	Inspection & Quality Control					
								ISC	4400	Time & Motion Study					
								ISC	4405	Process Planning					
								MEC	4304	Compound Angles					

Medical Office Assisting

The Medical Office Assistant is a person trained to assist the physician in the office, clinic or other medical setting to provide quality health care services. Duties include: obtaining patient data, maintaining medical records, typing and medical transcription, handling appointments, correspondence, insurance reports, office accounts and general care of the office. Duties also include admitting and preparing patients for examination, assisting with diagnostic tests and therapeutic treatments, performing routine office laboratory procedures and electrocardiograms, sterilizing instruments and instructing patients in preparations for x-rays and other diagnostic tests.

DESCRIPTION OF CURRICULUM

A diploma will be awarded to students who satisfactorily complete the one year Medical Office Assisting curriculum. In addition to classroom studies, each student will be provided with "on-the-job" practice in a doctor's office under the direct supervision of a doctor and a medical assistant. These experiences are planned and coordinated by a member of the College faculty.

The educational program for Medical Assistants has been accredited by the Committee on Allied Health Education and Accreditation in collaboration with the American Association of Medical Assistants. Graduates are eligible to take the National Examination to become a Certified Medical Assistant.

Suggested Sequence of Required Courses for the Medical Office Assisting Program

					QTR											
COURSE TITLE					HRS/WK HRS											
					CLS LAB CR											
FIRST QUARTER					SECOND QUARTER											
MED	5304	Orientation to Health Careers	3	0	0	3	MED	3305	Medical Terminology & Vocabulary II	3	0	0	3			
MED	3304	Medical Terminology & Vocabulary I	3	0	0	3	MED	3404	Medical Economics	3	2	0	4			
SEC	3404	Typing I	3	2	0	4	COM	1304	Introduction to Communication	3	0	0	3			
BIO	3600	Basic Health Science	5	2	0	6	MET	3400	Intro to Med Transcribing	2	4	0	4			
										MED	4302	Ethics and Law	3	0	0	3
					16										17	
THIRD QUARTER					FOURTH QUARTER											
MED	3315	Medical Office Administration	3	0	0	3	MED	5807	Medical Office Practice	0	0	24	8			
MED	5704	Examination Room Procedures	3	8	0	7	MED	5104	Medical Office Assisting Seminar	1	0	0	1			
MED	5614	Laboratory Procedures	3	6	0	6	MED	5305	Advanced Medical Office Procedures	3	0	0	3			
MED	3305	Medical Terminology & Vocabulary III	3	0	0	3						18				
					19											

Medical Record Technology Program

Twentieth Century advancements in medical technology have created the demand for a highly specialized group of professionals to process, maintain, and retrieve the tremendous volume of health information produced. This information is used as a medium of communication among health care professionals for current and future patient care and for scientific, statistical and legal purposes.

The Medical Record Technician assists the Registered Record Administrator in processing medical data on a daily, continuing basis. The technical skills include analyzing and processing the medical record to assure completeness and accuracy according to set standards, coding diseases by recognized classification system, compile and utilize various health statistics, release medical information in accordance with ethical and legal guidelines, transcribe medical records, abstract and retrieve health information used for evaluating health care services and supervise one or more health record services. In small hospitals, nursing homes and clinics, the Medical Record Technician is often employed to manage and process the health information.

DESCRIPTION OF CURRICULUM

The Associate in Applied Science degree will be awarded upon successful completion of a six quarter period of study which includes specialized and general college courses. Medical record clinical experiences are provided by health care facilities in local and surrounding areas.

The program is accredited by the AMA's Council on Allied Health Education and Accreditation and the American Medical Record Association. Graduates are eligible to take the national accreditation examination to become "Accredited Record Technicians."

Suggested Sequence of Required Courses for the Medical Record Technology Program

				QTR								QTR							
COURSE TITLE				HRS	WK	HRS		COURSE TITLE				HRS	WK	HRS					
				CLS	LAB	CR						CLS	LAB	CR					
FIRST QUARTER																			
BIO	1504	Human Anatomy & Physiology I		3	4	0	5	BIO	1505	Human Anatomy & Physiology II		3	4	0	5				
MRT	3201	Orientation to MRT		2	0	0	2	MRT	3300	Medical Record Content & Maintenance		2	2	0	3				
MED	3304	Medical Terminology I		3	0	0	3	MRT	4315	Medical Record Standards & Regulations		3	0	0	3				
SEC	3404	Typing I		3	2	0	4	MED	3305	Medical Terminology II		3	0	0	3				
†PSY	3314	Principles of Humanistic Psychology		3	0	0	3	SEC	3405	Typing II		3	2	0	4				
				—	—	—	17					—	—	—	18				
THIRD QUARTER																			
MRT	4404	Legal Aspects of Medical Records		3	2	0	4	FOURTH QUARTER											
MRT	3301	Quality Assurance in Health Care Facilities		2	2	0	3	MRT	3424	Principles of Disease		4	0	0	4				
MRT	3204	Directed Practice I		0	0	6	2	MRT	3302	Basic ICD-9-CM Coding		2	2	0	3				
MET	3400	Introduction to Medical Transcribing		2	4	0	4	MRT	4205	Directed Practice II		0	0	6	2				
MED	3306	Medical Terminology III		3	0	0	3	†FIN	3314	Business Mathematics		3	0	0	3				
COM	1304	Introduction to Communication		3	0	0	3	*COM1305	Communications II		3	0	0	3					
				—	—	—	19					—	—	—	3				
FIFTH QUARTER																			
MRT	3414	Medical Record Statistics		2	4	0	4	SIXTH QUARTER											
MRT	3202	Diagnostic Coding Systems		2	0	0	2	MRT	4405	Medical Record Seminar		4	0	0	4				
MRT	4206	Directed Practice III		0	0	6	2	MRT	4804	Directed Practice IV		0	0	24	8				
*COM1306	Communications III		3	0	0	3						—	—	—	12				
MGT	4330	Supervision OR		3	0	0	3												
MGT	4332	Personnel Management																	
EDP	3300	Introduction to Computer Concepts		3	0	0	3												
				—	—	—	17												

*COM 3305, COM 3306 may be substituted for COM 1305 and COM 1306
†Students intending to transfer upon completion of the program should see the program director for advice.

*COM 3305, COM 3306 may be substituted for COM 1305 and COM 1306
 †Students intending to transfer upon completion of the program should see the program director for advice.

Thirteen percent of CPCC's students already have four-year degrees from other colleges. They found they needed special knowledge to get a job, or fresh information because of the rapid changes in the work world.

There are about 1,000 courses to choose from each quarter at CPCC and almost 2,500 different ones in a year's time. Some are offered in dozens of class sections, day and evening. Some are offered on weekends.

Medical Transcription

The advancements in medical technology and the increase in the number of people needing medical care have created a shortage of good medical transcriptionists. Medical transcription is an exciting and important career as well as an exacting and artistic accomplishment. Documentation of health care information is a vital key in medical research and patient care. Most medical transcriptionists are employed in hospitals, physicians' offices, public health departments, school health facilities, insurance agencies, legal firms, military medical departments, and governmental agencies. Employment opportunities are numerous and range from full- to part-time work with some jobs providing a great deal of flexibility in hours.

DESCRIPTION OF CURRICULUM

The curriculum is designed to prepare students to transcribe correspondence, reports and other medical documents. In addition the student will be prepared to process insurance claims and perform other interesting business duties. The program of study includes classes in English grammar, medical terminology and typing. "On-the-job" training is provided during the last quarter of study.

A certificate will be awarded to students who satisfactorily complete the one-year Medical Transcription curriculum.

				QTR								QTR			
COURSE TITLE				HRS/WK HRS				COURSE TITLE				HRS/WK HRS			
				CLS	LAB	CR						CLS	LAB	CR	
FIRST QUARTER								SECOND QUARTER							
COM 3515	Advanced Grammar			5	0	0	5	MED 5304	Orientation to Health Careers			3	0	0	3
MED 3304	Med Term & Voc I			3	0	0	3	SEC 3405	Typing II			3	2	0	4
SEC 3404	Typing I			3	2	0	4	MED 3305	Med Term & Voc II			3	0	0	3
BIO 3600	Basic Health Science			5	2	0	6	MET 3400	Introduction to Med Transcribing			2	4	0	4
							18								14
THIRD QUARTER								FOURTH QUARTER							
MED 3306	Med Term & Voc III			3	0	0	3	MET 3204	Medical Transcription Seminar			2	0	0	2
MET 3904	Transcription			3	12	0	9	MET 3505	Clinical Practice I			1	0	12	5
MED 3315	Medical Office Administration			3	0	0	3	MET 3406	Clinical Practice II			0	0	12	4
							15		Elective (Optional)			—	—	—	1
															12

Nurse Aide

The Nurse Aide is an important member of the nursing team. Hospitals, nursing homes and other health facilities are in need of trained people. Both men and women find employment as nurse aides.

DESCRIPTION OF CURRICULUM

The Nurse Aide program provides the opportunity for students to gain an understanding of the principles essential to giving basic patient care.

The program of study is 11 weeks (one quarter) in length and provides both classroom and supervised hospital experience.

Upon successful completion of the program a certificate will be awarded, qualifying the recipient to work as a Nurse Aide.

Suggested Sequence of Required Courses for the Nurse Aide Program

				QTR			
COURSE TITLE				HRS/WK HRS			
				CLS	LAB	CR	
COM 5500	Communication Skills			5	0	0	5
HSA 5200	Human Relations			2	0	0	2
NUA 5700	Nurse Aide Skills I			3	0	12	7
NUA 5701	Nurse Aide Skills II			3	0	12	7
							21

Paralegal Technician

In our complex society it has become necessary to have legally qualified personnel for research, reference, analysis, interpretation and contact with the public and private sectors of the law and the courts. In many instances a Paralegal can provide much of the background and support work for an employer who needs these types of services.

Trained Paralegals have the ability to provide needed legal services for judges, clerks, prosecutors, public defenders and other court personnel. Paralegals can assist correction officials, probation and parole officers. They can also provide valuable assistance to consumer laws organizations, real estate and finance companies, and social agencies.

DESCRIPTION OF CURRICULUM

The Paralegal Curriculum incorporates a study of both substantive and procedural law. All students are trained in the skills which are most often used in a law office such as research and drafting, techniques of interview and investigation, and management of law offices. Students then have the opportunity to select courses which will teach them specialized skills in the areas of law they desire to work.

A graduate of this six-quarter program will receive an associate degree in Applied Science in Paralegalism. This program is part of the Public Service Department.

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
ACC 1604 Principles of Accounting	5	2	0	6
BUS 2304 Business Law I	3	0	0	3
BUS 2305 Business Law II	3	0	0	3
LEX 3300 Case Analysis and Reasoning	3	0	0	3
LEX 3310 North Carolina Legal Systems	2	2	0	3
LEX 3320 Evidence	3	0	0	3
LEX 3404 Legal Research	2	4	0	4
LEX 4220 Legal Ethics	2	0	0	2
LEX 4321 Tort Law	3	0	0	3
LEX 4322 Corporate Law	3	0	0	3
LEX 4331 Law Office Management	3	0	0	3
LEX 4332 Trial Preparation & Procedures	3	0	0	3
LEX 4361 Interpreting Medical Reports	3	0	0	3
LEX 4420 Real Property Law and Title Abstracting	3	2	0	4
LEX 4430 Wills, Trusts and Probate	3	2	0	4
LEX 4431 Interview and Investigation	3	2	0	4
LEX 3405 Legal Writing	3	2	0	4
LEX 4434 Legal Drafting	3	2	0	4
SEC 3301 Legal Terminology & Vocabulary	3	0	0	3
†SEC 3404 Typing	3	2	0	4
				69

GENERAL EDUCATION COURSE REQUIREMENTS

COM1304 Intro to Communications	3	0	0	3
*COM3305 Communications II	3	0	0	3
*COM3306 Communications III	3	0	0	3
ECO 3301 American Economic History	3	0	0	3
PHI 2500 Logic	5	0	0	5
SPH 1301 Persuasive Speaking	3	0	0	3

20

TECHNICAL ELECTIVES

(Choose at Least 16 Credit Hours)

BUS 4303 Labor Law	5	0	0	5
‡LEX 4190 Cooperative Work Experience	0	10	0	1
‡LEX 4290 Cooperative Work Experience	0	20	0	2
LEX 4300 Domestic Relations Law	3	0	0	3
LEX 4341 Worker's Compensation Law	3	0	0	3
LEX 4351 Laws of Taxation	3	0	0	3
LEX 4352 Preparing Estate Planners	3	0	0	3
‡LEX 4390 Cooperative Work Experience	0	30	0	3
LEX 4410 Collections & Bankruptcy	3	2	0	4
‡LEX 4490 Cooperative Work Experience	0	40	0	4
‡LEX 4491 Cooperative Work Experience	0	40	0	4
PSC 3510 Criminal Law	3	0	0	3
PSC 3504 Criminal Procedures and Rules of Evidence	5	0	0	5
PSC 4501 Constitutional Law	5	0	0	5
PSC 4505 Criminal Investigation	5	0	0	5
SSH 3504 Occupational Safety and Health	4	2	0	5
TRN 4354 Transportation Law I	3	0	0	3
TRN 4355 Transportation Law II	3	0	0	3
TOTAL QUARTER CREDITS REQUIRED				105

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

†Typing I required of all students who have not had one year of typing in high school or the equivalent

‡Student may not receive more than 10 credit hours in Cooperative Work Experience

*COM 1305 and COM 1306 may be taken instead of COM 3305 and COM 3306

Physical Therapist Assistant

Since 1968 this program has attempted to help meet the increasing demands for physical therapy personnel. Working under the supervision of the professional physical therapist, the Assistant is prepared to offer direct patient services for prevention or alleviation of physical impairments. The program is accredited by the American Physical Therapy Association.

DESCRIPTION OF CURRICULUM

The Associate in Applied Science degree will be awarded upon successful completion of a six-quarter period of study which combines specialized and general college courses. The classes are held on the College campus with clinical education carefully planned in community health facilities. The history, philosophy and procedures of physical therapy are interwoven with study in basic physical and social sciences and communications.

Suggested Sequence of Required Courses for the Physical Therapist Assistant Program.

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
FIRST QUARTER				
BIO 1504 Human Anatomy & Physiology I	3	4	0	5
PSY 2504 General Psychology	5	0	0	5
MED 3304 Medical Terminology & Vocabulary I	3	0	0	3
HED 1204 First Aid I	1	2	0	2
PTH 3404 Introduction to Physical Therapy	3	3	0	4
†Elective	—	—	—	—
				19
THIRD QUARTER				
COM1305 English Composition II				
OR				
COM3305 Communications II	3	0	0	3
SOC 2514 Introduction to Sociology	5	0	0	5
PTH 3525 Physical Therapy Procedures II	3	0	6	5
PTH 3714 Therapeutic Exercise	3	8	0	7
†Elective	—	—	—	—
				20
SECOND QUARTER				
BIO 1505 Human Anatomy & Physiology II	3	4	0	5
COM1304 Introduction to Communication	3	0	0	3
PTH 3524 Physical Therapy Procedures I	3	6	0	5
PTH 3615 Applied Anatomy	3	6	0	6
†Elective	—	—	—	—
				19
FOURTH QUARTER				
COM1306 English Composition II				
OR				
COM3306 Communications III	3	0	0	3
PTH 4627 Physical Therapy Procedures III	3	0	9*	6
PTH 4324 Psychology of Adjustment	3	0	0	3
†Elective	—	—	—	—
				12

CONTINUED

Career Programs

FIFTH QUARTER

SPH 1300	Oral Communication	3	0	0	3
PTH 4728	Physical Therapy Procedures IV	3	0	12*	7
PTH 4334	Community Health & Welfare †Elective	3	0	0	3
		—	—	—	13

SIXTH QUARTER

PTH 4344	Seminar in Physical Therapy Procedures	3	0	0	3
PTH 4604	Clinical Education I	0	0	18	6
PTH 4605	Clinical Education II	0	0	18	6
					15

*Clinic contact hours include a combination of laboratory and clinic hours as assigned by the instructor.

†9-10 Credit Hours in College Transfer course elective required in addition to courses listed, taken any of these quarters.

Piano Tuning and Repair

According to the American Music Conference there are ten million pianos in the United States. At any given time 95% of these are out of tune. For the trained piano technician, this is an untapped market for a challenging career. This program is designed to equip the student with the basic skills essential to building a clientele of customers who have their pianos tuned. The curriculum provides the practical, hands-on experience in refelting, regulating, repair or replacement of parts and the aural method of tuning. To play the piano is not necessary, in fact, to play other instruments or choral experience is even more desirable. The nature of the profession demands that the student be meticulous, patient and persistent. A diploma will be awarded to students successfully completing the curriculum. Personal satisfaction and financial reward await the graduate of this program.

Suggested Sequence of Required Courses for Piano Tuner/Technician Program

		QTR						QTR			
COURSE TITLE		HRS/WK	CLS	LAB	HRS CR	COURSE TITLE		HRS/WK	CLS	LAB	HRS CR
FIRST QUARTER						SECOND QUARTER					
MUS 1154	Class Piano I	0	3		1	PTR 5608	Fundamentals of Tuning II	2	12		6
PTR 5300	Piano Technology - The Instrument and Tools	3	0		3	PTR 5211	Vertical Regulations	1	3		2
PTR 5210	Piano Actions	0	6		2	PTR 5212	Hammer Replacement	1	3		2
PTR 5607	Fundamentals of Tuning I	2	12		6	PTR 5200	Piano Service Seminar	2	0		2
PTR 5200	Piano Service Seminar	2	0		2	COM 5500	Communication Skills	5	0		5
					14						17
THIRD QUARTER						FOURTH QUARTER					
PTR 5213	Grand Regulation	1	3		2	PTR 5610	Advanced Tuning	2	12		6
PTR 5609	Intermediate Tuning	2	12		6	PTR 5200	Piano Service Seminar	2	0		2
PTR 5214	Restraining	1	3		2	ART 1314	Basic Woodworking	0	6		3
PTR 5200	Piano Service Seminar	2	0		2	MGT 5200	Shop Management	2	0		2
BUS 3300	Human Relations in Business	3	0		3						13
					15						
FIFTH QUARTER											
Piano Restoration (Optional)											
ART 1317	Furniture Restoration I	0	6		3						
PTR 5330	Tuning Practicum	0	9		3						
					6						

Police Science

The Police Science professional can no longer rely on past training and education. Law enforcement officers must have an understanding of the society they serve. Their deep involvement with the entire administration of justice necessitates an understanding of the behavior attitudes and motivations of groups and individuals.

Police officers must be proficient in their daily work area; they must develop a competency in investigative techniques, patrol functions, court procedures, police management, crime scene techniques and the mechanics of arrest, search and seizure. Above all, law enforcement officers must understand and practice the meaning and value of ethical concepts relating to honesty, integrity and tolerance.

DESCRIPTION OF CURRICULUM

This curriculum will assist the student in acquiring the necessary training and education required of professional law enforcement officers. The approach is both theoretical and practical with course work covering areas of practical, theoretical and technical application of law enforcement techniques. The courses in this curriculum are designed for law enforcement officers, prospective law enforcement officers, and citizens interested in the etiologies and results of crime and the police mission. Classes are scheduled so they can be taken by law enforcement officers during their off-duty hours. The degree of Associate in Applied Science in Police Science will be awarded upon successful completion of this curriculum.

TECHNICAL COURSE REQUIREMENTS

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
PSC 3500 Intro. to Criminology	5	0	0	5
PSC 3501 Intro. to Law Enforcement	5	0	0	5
PSC 3504 Crime Scene Technology	4	2	0	5
PSC 3510 Criminal Law	5	0	0	5
PSC 3514 Police Organization & Adm.	5	0	0	5
PSC 4310 Self Defense & Weaponry	1	4	0	3
PSC 4501 Constitutional Law	5	0	0	5
PSC 4503 Law Enforcement Psychology	5	0	0	5
PSC 4504 Criminal Procedure & Rules of Evidence	5	0	0	5
PSC 4505 Criminal Investigation	5	0	0	5
PSC 4511 Administration of Justice	5	0	0	5
PSC 4520 Public Relations	5	0	0	5
SSH 3500 Intro. to Loss Prevention	5	0	0	5
SSH 4510 Principles of Interviewing & Interrogation	5	0	0	5
				68

TECHNICAL ELECTIVES

(Choose at Least 10 Credit Hours)

PSC 4506	Advanced Crime Scene Technology	4	2	5
PSC 4510	Police Operations	4	2	5
PSC 3309	Boating Laws of North Carolina	1	4	3
PSC 3303	Motor Vehicle Laws of North Carolina	2	2	3
CSC 3504	Juvenile Justice System	5	0	5
				10

GENERAL EDUCATION COURSE REQUIREMENTS

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
COM1304 Intro. to Communication	3	0	0	3
COM1305 English Composition II	3	0	0	3
OR				
COM3305 Communications II	3	0	0	3
COM1306 English Composition III	3	0	0	3
OR				
COM3306 Communications III	3	0	0	3
SPH 1301 Persuasive Speaking	3	0	0	3
				12

Plus 6 hours of General Education Courses selected from the following prefixes:

POL, SOC, SPH, LIT, MATH, LAN, HUM, PSY, HIS	6
TOTAL QUARTER CREDIT HOURS REQUIRED	96

Practical Nursing

The Licensed Practical Nurse is an important member of the health care team. In addition to the nursing care given to convalescing patients and to those with chronic or handicapping conditions, the Licensed Practical Nurse is also prepared to assist the Registered Nurse in caring for the more seriously ill and injured. Both men and women find opportunities for service as Licensed Practical Nurses in hospitals, clinics, nursing homes, doctors offices and industries. Admission is based upon satisfactory scores on specific entrance tests, personal interviews, and evidence of good physical and mental health. Applicants must submit a completed high school transcript or other evidence of attainment of a high school education. Students are admitted in the Fall Quarter each year.

DESCRIPTION OF CURRICULUM

The curriculum of the Practical Nurse Program provides the opportunity for students to gain the knowledge, skills, and appreciations which are needed by the Licensed Practical Nurse. The course of study is four quarters (one year) in length. Opportunity is provided for the study and practice of nursing care of patients of all age groups in medical-surgical nursing, care of the sick child and care of the mother and newborn infant.

The Audio-Tutorial Method is used for the instruction of nursing theory. This method allows students to learn each week's work at their own pace and a time that is convenient. Discussion groups and testing periods are scheduled weekly.

Upon completion of the curriculum the graduate is awarded a diploma by the College and is qualified to write the licensing examination given by the North Carolina Board of Nursing.

Suggested Sequence of Required Courses for the Practical Nursing Program

COURSE TITLE			QTR			
			HRS/WK	HRS		
FIRST QUARTER			CLS	LAB	CR	
COM	5500	Communication Skills	5	0	0	5
BIO	3600	Basic Health Science	5	2	0	6
NUP	5203	Orientation to Vocational Relationships	2	0	0	2
NUP	5704	Introduction to Patient Care	<u>3</u>	<u>4</u>	<u>6</u>	<u>7</u>
						20
THIRD QUARTER						
NUP	5705	Care of Patients with Medical/Surgical Conditions II	2	4	9	7
NUP	5717	Care of Patients with Medical/Surgical Conditions III	<u>2</u>	<u>4</u>	<u>9</u>	<u>7</u>
						14

		COURSE TITLE	QTR			
			HRS/WK	CLS	LAB	HRS CR
SECOND QUARTER						
HSA	5200	Human Relations	2	0	0	2
NUP	5400	Basic Principles of Drug Administration	3	2	0	4
NUP	5904	Care of Patients with Medical/Surgical Conditions I	<u>3</u>	<u>2</u>	<u>15</u>	<u>9</u>
						15
FOURTH QUARTER						
NUP	5104	Vocational Relationships	1	0	0	1
NUP	5706	Care of Infants & Children	2	4	9	7
NUP	5707	Care of Mothers & Newborn Infants	<u>2</u>	<u>4</u>	<u>9</u>	<u>7</u>
						15

Recreation Associate

The growing field of recreation has become an area requiring leadership qualities and skilled personnel. The Recreation Associate Program will provide the student with the knowledge and skills needed to provide quality recreation.

DESCRIPTION OF CURRICULUM

The Recreation Associate curriculum is designed to provide the opportunity for students to learn skills in such activities as scheduling special events and tournaments, sports officiating and individual life-time activities. The student will learn to plan and direct recreational activities for different age groups and in many kinds of settings, both public and private.

The curriculum includes selected related courses that will prepare the student for entry into the field of recreation.

Upon completion of this program the Associate in Applied Science in Recreation is awarded.

Suggested Sequence of Required Courses for the Recreation Associate Program

COURSE TITLE				QTR			COURSE TITLE				QTR		
				HRS	WK	HRS					HRS	WK	HRS
				CLS	LAB	CR					CLS	LAB	CR
FIRST QUARTER							SECOND QUARTER						
HPE	1404	Introduction to Recreation Services		3	3	4	HED	1204	First Aid I		1	2	2
COM	1304	Introduction to Communications		3	0	3	†FIN	3314	Business Math		3	0	3
HPE	1504	Relays and Games of Low Organization and Team Sports		3	6	5	BIO	1504	Human Anatomy & Physiology		3	4	5
HED	1100	Health Education I		1	0	1	HED	1101	Health Education II		1	0	1
		*Elective				4	ART	1302	Art Education		2	2	3
				10	9	17	‡COM	3515	Advanced Grammar		5	0	5
THIRD QUARTER							FOURTH QUARTER						
SOC	1301	Group Interaction		3	0	3	SPH	1300	Oral Communications		3	0	3
BIO	1505	Human Anatomy & Physiology		3	4	5	HPE	2204	Prevention & Treatment of Athletic Injuries		1	3	2
TAV	3300	Visual Aids Development		2	2	3	HPE	2445	Principles of Body Mechanics and Physical Fitness		3	3	4
HPE	1414	Water Activities		2	6	4	HED	1203	(CPR) Cardiopulmonary Resuscitation		2	0	2
HOR	3302	Landscape Graphics & Measurements		2	2	3	HOR	3504	Grounds Maintenance I		3	4	5
				12	14	18	HED	1102	Health Education III		1	0	1
FIFTH QUARTER							SIXTH QUARTER						
HPE	2424	Program Planning & Organization		3	3	4	HPE	2315	Scheduling Special Events & Tournaments		2	3	3
BUS	3300	Applied Psychology		3	0	3	HPE	2200	Sports Officiating		1	3	2
HPE	2434	Recreation & Special Health Problems		3	3	4	HPE	2325	Introduction to Outdoor Education		2	3	3
HOR	3405	Grounds Maintenance II		2	4	4	HPE	2314	Individual Life-Time Recreational Activities		2	3	3
		*Elective				3	HOR	3410	Turf Management		2	4	4
				11	10	18			*Elective				3
											9	16	18

CPCC offers classes in churches, schools, office buildings, plants and even in private homes. These off-campus classrooms total nearly 300, making instruction available to students wherever they may be in the local area.

*Electives should be approved by Division Head

†MAT 1504, 1505, or MAT 1514, 1515 may be taken if students have met requirements.

‡COM 1305, 1306 may be taken if students have met requirements.

Respiratory Therapy

The rapid advances in cardiorespiratory physiology, coupled with the development of sophisticated technology for the diagnosis and treatment of patients with cardiopulmonary disorders, have increased the need for the Respiratory Therapist. Respiratory therapy is rapidly rising to the forefront of allied health services.

The Respiratory Therapist uses a wide variety of therapeutic skills, procedures, and techniques in the application of medical gases, medications and equipment in the treatment of respiratory dysfunctions. Various testing techniques are used to assist in diagnosis, monitoring, treatment and research.

Most Respiratory Therapists are employed in hospital respiratory therapy departments or pulmonary function laboratories. Others are employed by contract service companies and educational institutions.

The Program is accredited by the American Medical Association.

DESCRIPTION OF CURRICULUM

The Associate in Applied Science Degree will be awarded upon successful completion of the program. Respiratory therapy theory, laboratory procedures and clinical application are studied along with basic sciences, social sciences and communication skills. Theory classes will be held on the College campus with the clinical classes meeting in hospitals and other health care facilities.

Suggested Sequence of Courses for the Respiratory Therapy Program

COURSE TITLE					QTR			
					HRS/WK HRS			
					CLS LAB CR			
FIRST QUARTER								
BIO 1504	Anatomy and Physiology I				3	4	0	5
*MAT 3504	Technical Mathematics				5	0	0	5
RTH 3807	Intro. to Respiratory Therapy				4	4	6	8
					18			
THIRD QUARTER								
BIO 3404	Cardiopulmonary Anatomy and Physiology				3	2	0	4
BIO 1503	Microbiology				3	4	0	5
RTH 3805	Respiratory Therapy Procedures II				3	4	9	8
†Elective					—	—	—	17
FIFTH QUARTER								
COM1304	Intro. to Communication				3	0	0	3
RTH 4715	Equipment for Continuous Ventilation				1	4	12	7
RTH 4724	Continuous Ventilation				3	0	12	7
PTH 4324	Psychology of Adjustment				3	0	0	3
					20			
SEVENTH QUARTER								
*COM3306	Communications III				3	0	0	3
RTH 4606	Clinical Application I				2	0	12	6
RTH 4607	Clinical Application II				2	0	12	6
†Elective					—	—	—	15

COURSE TITLE					QTR			
					HRS/WK HRS			
					CLS LAB CR			
SECOND QUARTER								
BIO 1505	Anatomy & Physiology II				3	4	0	5
RTH 3305	Respiratory Pharmacology				3	0	0	3
RTH 3304	Pathology & Physical Diagnosis				2	2	0	3
RTH 3714	Respiratory Therapy Procedures I				3	2	9	7
					18			
FOURTH QUARTER								
*PHY 3414	Physics of Respiratory Therapy				3	2	0	4
CHM1501	Introductory Chemistry II				3	4	0	5
RTH 4814	Introductory to Emergency and Intensive Respiratory Care				2	4	12	8
RTH 4204	Intro. to Pulm. Functions				2	0	0	2
					19			
SIXTH QUARTER								
*COM3305	Communications II				3	0	0	3
RTH 4504	Pulmonary Functions I				2	0	9	5
RTH 4605	Pulmonary Functions II				2	2	9	6
SPH 1300	Oral Communications				3	0	0	3
†Elective					17			

Career Programs

THIRD QUARTER

FIN 3315	Business Mathematics II	3	0	3
SEC 3406	Typing III	3	2	4
SEC 3415	Shorthand II	3	2	4
SEC 4370	Records Management	3	0	3
SPH 1300	Oral Communications	3	0	3
		<u>3</u>	<u>0</u>	<u>17</u>

FIFTH QUARTER

SEC 4617	General Office Procedures	5	2	6
SEC 4417	Dictation and Transcription I	3	2	4
SEC 4426	Word Processing & Machine Transcription	3	2	4
ECO 3300	Introduction to Economics	3	0	3
		<u>3</u>	<u>0</u>	<u>17</u>

FOURTH QUARTER

SEC 4305	Business Communications	3	0	3
SEC 4407	Typing IV	3	2	4
SEC 3416	Shorthand III	3	2	4
SEC 3304	Office Machines	2	2	3
BUS 2304	Business Law I	3	0	3
		<u>3</u>	<u>0</u>	<u>17</u>

SIXTH QUARTER

EDP 3300	Introduction to Computer Concepts	3	0	3
ACC 3600	Secretarial Accounting	5	2	6
SEC 4418	Dictation & Transcription II	3	2	4
	†Elective (General Education)	—	—	3
		<u>—</u>	<u>—</u>	<u>16</u>

†Courses must have the following prefix:
COM, ECO, PSY, SOC, SPH.

GENERAL OFFICE TECHNOLOGY

The General Office Technology curriculum is designed to prepare students for a variety of office positions.

DESCRIPTION OF CURRICULUM

This program is for students who desire training in general office work in which shorthand and in-depth accounting are not required but may be taken if desired. The curriculum prepares students to handle typical office tasks: typing, filing, transcribing, duplicating, mail handling, telephoning, record keeping, greeting customers, and using various office machines — including word processing equipment.

Upon successful completion of this two-year program, students receive the Associate of Applied Science Degree in General Office Technology.

Suggested Sequence of Courses for the General Office Technology Program

COURSE TITLE		QTR HRS/WK HRS			COURSE TITLE		QTR HRS/WK HRS		
FIRST QUARTER					SECOND QUARTER				
COM1304	Introduction to Communication	3	0	3	COM3515	Advanced Grammar	5	0	5
SEC 3404	Typing I	3	2	4	SEC 3405	Typing II	3	2	4
FIN 3314	Business Mathematics I	3	0	3	FIN 3315	Business Mathematics II	3	0	3
SEC 4370	Records Management	3	0	3	BUS 1400	Introduction to Business	3	2	4
SEC 3320	Personal Projection	3	0	3					16
				16	FOURTH QUARTER				
THIRD QUARTER					SEC 4305	Business Communications	3	0	3
SEC 4310	Vocabulary Building	3	0	3	SEC 4407	Typing IV	3	2	4
SEC 3406	Typing III	3	2	4	ACC 3600	General Accounting			
SEC 3304	Office Machines	2	2	3		Or			
BUS 3300	Human Relations in Business	3	0	3	ACC 1604	Principles of Accounting I	5	2	6
EDP 3300	Introduction to Computer Concepts	3	0	3		†Elective	3	0	3
				16					16
FIFTH QUARTER					SIXTH QUARTER				
SEC 4426	Word Processing and Machine Transcription	3	2	4	SEC 4617	General Office Procedures	5	2	6
FIN 4350	Personal Money and Financial Management I				ECO 3300	Introduction to Economics	3	0	3
	Or				MGT 4331	Administrative Office Management	3	0	3
	Elective	3	0	3		Elective(s)	4	0	4
BUS 2304	Business Law I	3	0	3					16
SPH 1300	Oral Communications	3	0	3	It is recommended that electives be concentrated in one area to develop a specific skill: shorthand, data processing, graphic arts, accounting, etc.				
	Elective	3	0	3					
				16	†Courses must have the following prefix: COM, ECO, PSY, SOC, SPH.				

LEGAL SECRETARY

The legal secretary is an essential employee in any law office. Well-qualified legal secretaries are in constant demand. It is the purpose of this curriculum to provide a training program that will enable graduates to meet the specialized needs of the legal profession.

The duties of a legal secretary may consist of filing, taking dictation, transcribing letters and legal documents, greeting clients and other office callers, screening telephone calls, and scheduling appointments. The legal secretary needs not only the usual secretarial skills but also knowledge of legal terminology and procedures.

Opportunities for the graduate exist in law offices, corporate legal departments, banks, trust companies, various governmental agencies, and many other firms.

DESCRIPTION OF CURRICULUM

The Legal Secretarial curriculum is designed to prepare the student for a variety of secretarial positions in the legal profession. Courses in typing, dictation, transcription, filing, and office machines are offered. Training in these secretarial skills is supplemented by related courses in business law, legal terminology, legal office procedures, word processing, mathematics and accounting. The degree of Associate in Applied Science in Legal Secretarial Science will be awarded upon successful completion of the curriculum.

Suggested Sequence of Required Courses for the Legal Secretary Program

COURSE TITLE	QTR HRS/WK HRS			COURSE TITLE	QTR HRS/WK HRS		
	CLS	LAB	CR		CLS	LAB	CR
FIRST QUARTER				SECOND QUARTER			
COM1304 Introduction to Communication	3	0	3	COM3515 Advanced Grammar	5	0	5
SEC 3404 Typing I	3	2	4	FIN 3314 Business Mathematics I	3	0	3
SEC 3414 Shorthand I	3	2	4	SEC 3405 Typing II	3	2	4
SEC 4370 Records Management	3	0	3	SEC 3415 Shorthand II	3	2	4
SEC 3301 Legal Terminology and Vocabulary	3	0	3	BUS 2304 Business Law I	3	0	3
			17				19
THIRD QUARTER				FOURTH QUARTER			
SEC 3416 Shorthand III	3	2	4	SEC 3304 Office Machines	2	2	3
SEC 3406 Typing III	3	2	4	SEC 4407 Typing IV	3	2	4
FIN 3315 Business Mathematics II	3	0	3	SEC 4417 Dictation & Transcription I	3	2	4
SEC 4305 Business Communications	3	0	3	SEC 4426 Word Processing & Machine Transcription	3	2	4
BUS 2305 Business Law II	3	0	3	BUS 2306 Business Law III	3	0	3
			17	Or			
FIFTH QUARTER				Paralegal elective	—	—	18
SEC 4639 Legal Office Procedures	5	2	6	SIXTH QUARTER			
SEC 4448 Legal Dictation & Transcription	3	2	4	BUS 3300 Human Relations in Business	3	0	3
SEC 3320 Personal Projection	3	0	3	EDP 3300 Introduction to Computer Concepts	3	0	3
LEX 4331 Law Office Management				SPH 1300 Oral Communications	3	0	3
Or				ACC 3600 General Accounting			
MGT 4331 Administrative Office Management	3	0	3	Or			
			16	ACC 1604 Principles of Accounting I	5	2	6
				†Elective (General Education)	—	—	4
							19

†Courses must have the following prefix:
COM, ECO, PSY, SOC, SPH.

MEDICAL SECRETARY

The demand for well-qualified medical secretaries is becoming acute in an ever-expanding medical profession. The purpose of this curriculum is to outline a training program that will provide specialized training in the accepted secretarial procedures required by the medical profession. The duties of a medical secretary may consist of filing, taking dictation, transcribing letters, memoranda and reports, receiving callers, screening telephone calls, completing insurance forms, and scheduling appointments. The graduate may enter a secretarial position in physicians' offices, private and public hospitals, public health agencies, and drug and pharmaceutical companies.

DESCRIPTION OF CURRICULUM

The Medical Secretary curriculum is designed to offer the student the necessary secretarial skills for employment in medical or health-related agencies. The graduate will have a knowledge of medical terminology, skills in typing and transcription, and training in word processing. Special training in secretarial subjects will be supplemented by related courses in mathematics, accounting, and communications. The degree of Associate in Applied Science in Medical Secretarial Science will be awarded upon successful completion of this curriculum.

Suggested Sequence of Required Courses for the Medical Secretary Program

COURSE TITLE	QTR HRS/WK HRS			COURSE TITLE	QTR HRS/WK HRS		
	CLS	LAB	CR		CLS	LAB	CR
FIRST QUARTER				SECOND QUARTER			
COM1304 Introduction to Communication	3	0	3	COM3515 Advanced Grammar	5	0	5
SEC 3404 Typing I	3	2	4	MED 3305 Medical Terminology and Vocabulary II	3	0	3
BIO 3600 Basic Health Science	5	2	6	SEC 3405 Typing II	3	2	4
MED 3304 Medical Terminology and Vocabulary I	3	0	3	SEC 3414 Shorthand I	3	2	4
SEC 4370 Records Management	3	0	3	FIN 3314 Business Mathematics I	3	0	3
			19				19

CONTINUED

Career Programs

THIRD QUARTER

FIN 3315	Business Mathematics II	3	0	3
SEC 3415	Shorthand II	3	2	4
SEC 3406	Typing III	3	2	4
SEC 3304	Office Machines	2	2	3
MED 3306	Medical Terminology & Vocabulary III	3	0	3
				17

FIFTH QUARTER

SEC 4628	Medical Office Procedures	5	2	6
SEC 4406	Medical Shorthand	3	2	4
MED 4302	Medical Ethics and Law	3	0	3
SEC 3424	Medical Transcription I	2	4	4
				17

FOURTH QUARTER

SEC 4407	Typing IV	3	2	4
SEC 3416	Shorthand III	3	2	4
SEC 4305	Business Communication	3	0	3
SEC 4426	Word Processing and Machine Transcription	3	2	4
BUS 3300	Human Relations in Business	3	0	3
				18

SIXTH QUARTER

ACC 5610	Medical Accounting	5	2	6
EDP 3300	Introduction to Computer Concepts	3	0	3
SPH 1300	Oral Communication	3	0	3
SEC 3325	Medical Transcription II	2	2	3
	†Elective (General Education)	—	—	4
				19

†Courses must have the following prefix:
COM, ECO, PSY, SOC, SPH.

Transportation

The Metrolina area is a major transportation and warehousing center for the Southeastern part of the country. The opportunity for employment and advancement in the Transportation Industry in Metrolina is very good. Central Piedmont Community College offers an opportunity for those not yet employed in Transportation to gain practical knowledge needed for employment. C.P.C.C. also offers those presently employed the opportunity to gain needed knowledge for more rapid advancement.

Completion of the General Course Requirements for the degree plus 30 credit hours of specialized transportation courses will entitle the student to the Associate Degree in Applied Science in Transportation. Students may also earn Specialized Certificates in the areas of Operations, Sales, or Traffic by completing 30 hours in the chosen area.

GENERAL COURSE REQUIREMENTS

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
COM 1304	Intro. to Communication	3	0	3
†COM 3305	Communications II	3	0	3
†COM 3306	Communications III	3	0	3
SPH 1300	Oral Communications	3	0	3
ECO 2304	Economics I (Macro)	3	0	3
ECO 2305	Economics II (Micro)	3	0	3
ACC 1604	Principles of Accounting I	5	2	6
ACC 1605	Principles of Accounting II	5	2	6
BUS 1400	Introduction to Business	3	2	4
BUS 2304	Business Law I	3	0	3
BUS 3300	Human Relations in Business	3	0	3
†FIN 3314	Business Mathematics I	3	0	3
MGT 2314	Principles of Management	3	0	3
†FIN 3315	Business Mathematics II	3	0	3
EDP 3300	Intro. to Computer Concepts	3	0	3
EDP 4314	Systems and Procedures	3	0	3
BUS 3304	Business Statistics	3	0	3
	Electives	—	—	12
				70

AREAS OF SPECIALIZATION

OPERATIONS

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
TRN 3300	Introduction to Transportation	3	0	3
TRN 3350	Highway Transportation	3	0	3
TRN 3320	Motor Fleet Supervision I	3	0	3
TRN 3321	Motor Fleet Supervision II	3	0	3
MGT 4330	Supervision	3	0	3
TRN 4356	Introduction to Physical Distribution	3	0	3
TRN 4360	Motor Carrier Management	3	0	3
TRN 4351	Freight Claims	3	0	3
TRN 4370	Transportation Seminar	1	4	3
TRN 4358	Warehousing	3	0	3
				30

SALES

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
TRN 3300	Introduction to Transportation	3	0	3
MKT 3320	Fundamentals of Selling	3	0	3
TRN 3360	Motor Carrier Rates	2	2	3
TRN 4351	Freight Claims	3	0	3
TRN 4356	Introduction to Physical Distribution	3	0	3
TRN 4397	Import-Export Management	3	0	3
MKT 1304	Marketing I	3	0	3
MKT 4306	Sales Management	3	0	3
TRN 4370	Transportation Seminar	1	4	3
SPH 1301	Persuasive Speaking	3	0	3
				30

TRAFFIC

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
TRN 3300	Introduction to Transportation	3	0	3
TRN 3351	Traffic Management	3	0	3
TRN 3360	Motor Carrier Rates	2	2	3
TRN 4351	Freight Claims	3	0	3
TRN 4354	Transportation Law	3	0	3
TRN 4356	Introduction to Physical Distribution	3	0	3
TRN 4397	Import-Export Management	3	0	3
MKT 4322	Purchasing	3	0	3
TRN 3303	Economics of Transportation	3	0	3
TRN 4370	Transportation Seminar	1	4	3
				30

NOTE: Full-time students should obtain a course/quarter sequence sheet from their counselor or advisor.

Welding

Many of the parts used in missiles, automobiles, airplanes, refrigerators and thousands of other products are joined by a widely-used process known as welding. Welders join metals by applying intense heat and sometimes pressure to melt the edges to form a permanent bond.

Welding provides the opportunity to travel and make good wages at the same time. Skilled welders work on bridges, buildings, dams and other construction projects around the globe. A well-trained welder may obtain one of the many jobs available locally for a person skilled in this trade.

DESCRIPTION OF CURRICULUM

This curriculum at Central Piedmont Community College provides the opportunity for students to develop skills in the various welding processes. Other courses such as calculations and blueprint reading play important parts in developing good welders. A graduate from this curriculum will receive a diploma from the College.

Suggested Sequence of Required Courses for the Welding Program

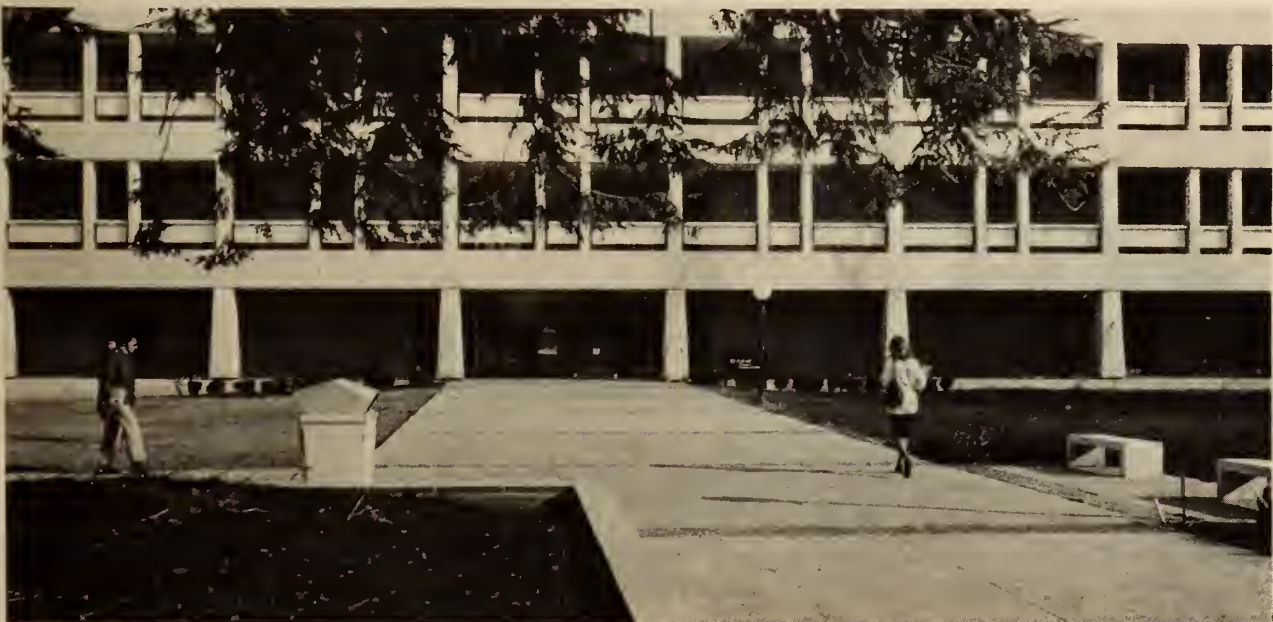
COURSE TITLE	QTR HRS/WK HRS			COURSE TITLE	QTR HRS/WK HRS		
	CLS	LAB	CR		CLS	LAB	CR
FIRST QUARTER				SECOND QUARTER			
WLD 5301 Blueprint Reading for Welders I	3	0	3	WLD 5302 Blueprint Reading for Welders II	3	0	3
WLD 5401 Basic Calculations for Welders	4	0	4	WLD 5820 Arc Welding	4	12	8
WLD 5450 Gas Metal Arc Welding	2	6	4	OR			
WLD 5610 Oxyacetylene Welding & Cutting	3	9	6	*WLD 5421 Arc Welding I	2	6	4
OR				*WLD 5422 Arc Welding II	2	6	4
*WLD 5311 Oxyacetylene Welding & Cutting I	2	3	3	MEC 5215 Practical Metallurgy II	1	3	2
*WLD 5312 Oxyacetylene Welding & Cutting II	1	6	3	Elective	—	—	2
MEC 5214 Practical Metallurgy I	1	3	2				15
			19	FOURTH QUARTER			
THIRD QUARTER				WLD 5267 Certification Practice	0	6	2
WLD 5240 Introductory Pipe Welding	1	3	2	WLD 5268 Certification Testing	2	0	2
WLD 5830 Gas Tungsten Arc Welding	4	12	8	WLD 5654 Commercial & Industrial Practices	2	12	6
OR				OR			
*WLD 5431 Gas Tungsten Arc Welding I	2	6	4	*WLD 5355 Commercial & Industrial Practices I	1	6	3
*WLD 5432 Gas Tungsten Arc Welding II	2	6	4	*WLD 5356 Commercial & Industrial Practices II	1	6	3
PHY 5304 Shop Science I	2	2	3	HSA 5200 Human Relations	2	0	2
COM 5500 Communication Skills	5	0	5	PHY 5305 Shop Science II	2	2	3
			18	Elective	—	—	2
							17


*For Evening Students

RECOMMENDED ELECTIVES:

AHR 5594 Duct Design I - Rectangular Duct
 BUS 1400 Introduction to Business
 COM 1304 Introduction to Communication
 DFT 3404 Technical Drafting I
 ELN 3300 Electrical Installations and Safety

HED 1204 First Aid I
 MAC 5201 Machine Shop Practices
 MGT 5200 Shop Management
 PME 5211 Small Engine Repair I
 RDN 9510 Reading Improvement
 WLD 5404 Pipe Welding





A black and white photograph of a multi-story building, identified by a sign as Central Piedmont Community College. The building has a light-colored facade and several windows. A prominent balcony with a dark metal railing runs across the middle of the frame. Two people are standing on the balcony: a person in a light-colored, patterned shirt and another person in a dark shirt. Below the balcony, a large sign is mounted on the building's exterior wall, reading "CENTRAL PIEDMONT COMMUNITY COLLEGE" in bold, capital letters. The foreground features a landscaped area with a large tree on the left, several bushes, and a concrete walkway or driveway. The overall scene is captured in a slightly tilted perspective.

CENTRAL PIEDMONT COMMUNITY COLLEGE

Transfer Programs:

Associate in Arts Degree

Associate in Fine Arts Degree

ACCOUNTING
ART
BEHAVIORAL AND SOCIAL SCIENCES
BIOLOGY
BUSINESS ADMINISTRATION
COMMUNICATIONS

COMPUTER SCIENCE
HEALTH AND PHYSICAL EDUCATION
HUMANITIES
MATHEMATICS
PERFORMING ARTS
PHYSICAL SCIENCE

With the increased demand for education beyond the high school level, community colleges throughout the nation are faced with the challenge of providing both the first two years of baccalaureate degree work as well as service-oriented courses for general education and personal development. The transfer section of Central Piedmont Community College is dedicated to assisting students to achieve their educational goals in both areas.

Transfer courses at Central Piedmont Community College are taught through stated student performance objectives. This method of teaching involves both content and motivation objectives. Student accountability is at the heart of this method of instruction since the student is accountable for meeting particular performance objectives.

Upon successful completion of most courses for the two year baccalaureate degree at Central Piedmont Community College the students should be able to evidence: effective communication skills; adequate analytical capabilities; workable problem-solving skills; increased awareness and understanding of the world in which they live; and familiarity with, and appreciation of the arts, literature, humanities.

GENERAL INFORMATION

The student should consult the general information section for general school policies. The following information is especially relevant to the Associate in Arts Degree, and the Associate in Fine Arts Degree.

ADMISSION

The student should forward, as early as possible in advance of the date of registration, a Student Data Sheet and a high school transcript to the Admissions Office. Transcripts of any completed college work should be received prior to the counseling appointment. While students may be processed throughout the registration period, an early application assures adequate time for testing, counseling, and transcript evaluation.

Central Piedmont Community College follows an "open door" policy and does not impose restrictive standards for admission to the College. All degree curricula, however, require high school graduation or the equivalent. In most cases, before students are admitted to a program or curriculum, a series of placement tests is scheduled and an academic advising interview is arranged. Placement tests determine skill levels in mathematics, English, and reading. This process aids students in evaluating their potential for success in their intended field of study. When scores on the tests indicate a lack of readiness to begin college-level work, students will be advised to register for courses in advancement studies.

UNITS OF CREDITS AND COURSE DESCRIPTIONS

Central Piedmont Community College is on a quarter system. One unit of credit is equal to one class hour meeting per week. In the section on course descriptions in subsequent pages, there appear the course number, the title of the course and the hours of credit for the course. The number of lecture hours and the number of laboratory hours are shown in parentheses. When the laboratory is required, one credit hour will equal at least two hours of laboratory times as appropriate to the course. The word Prerequisite which follows many course descriptions means that, before enrolling, the one or more courses specified must first be completed successfully. The word Co-requisite means that the one or more courses specified may/should be taken at the same time. When appropriate, prerequisites or co-requisites may be waived by the Division/Department Head.

REQUIREMENTS FOR THE DEGREES

The student must complete a minimum of 96 quarter hours of course work to qualify for the Associate in Arts Degree or Associate in Fine Arts Degree. Only ten hours of General Education Courses (GEN) may be included in the 96 hours. GEN courses provide students with specific study of general interest. These courses originate in and are taught through the different College departments. The student is eligible for the Associate in Arts Degree upon completing the required 96 quarter hours for graduation, including the minimum hours in each area listed below:

ASSOCIATE IN ARTS DEGREE

The student is eligible for the Associate in Arts Degree upon completing the required 96 quarter hours for graduation, including the minimum hours in each area listed below:

Communication	9
English Composition 1304, 1305, 1306 (Required of all students.)	
Social Science	12
Includes Anthropology, Economics, History, Political Science, Psychology and Sociology	
Health Physical Education	3
Select hours from HED and HPE courses listed	
	minimum hours required
Humanities	14
This requirement is met by a sequence in language or some combination of courses in the following areas: Art, Drama, Humanities, Literature, Music, Philosophy, or Speech.	
Biological Science, Physical Science & Mathematics	20
Courses must be chosen from at least two of the three fields. At least ten hours credit must be taken in laboratory science, either biological or physical (Chemistry, Geology, Physical Geography or Physics).	

NOTE: Requirements for the different pre-professional areas will vary; therefore, it is the responsibility of the student to check the catalog of the senior institution to which transfer is planned. High school background, scholastic aptitude, and vocational goals also will be considered as factors shaping the individual's program of study. Counselors and faculty members are available to assist the student in course selection. **(This is a sample program and is not meant to be prescriptive for any particular individual.)**

1st Quarter	
COM 1304 Intro. to Communications	3
Mathematics (see following list)	5
Laboratory Science (see following list)	5 or 6
Physical Education	1
Electives	1 or 3
2nd Quarter	
COM 1305 English Composition II	3
Mathematics (see following list)	5
Laboratory Science (see following list)	5 or 6
Physical Education	1
Electives	1 or 3
3rd Quarter	
COM 1306 English Composition III	3
Social Science (see following list)	3 or 5
Physical Education	1
Electives	7 to 9
4th Quarter	
Humanities (see following list)	3 or 5
Social Science (see following list)	3 or 5
Electives	6 to 10
5th Quarter	
Humanities (see following list)	3 to 5
Social Science	3 or 5
Electives	11 to 13
6th Quarter	
Humanities (if needed)	
Electives to bring total hrs. to 96	

ASSOCIATE IN FINE ARTS DEGREE

The Associate in Fine Arts Degree is awarded in art, music, drama, and dance. The student is eligible for the Associate in Fine Arts Degree upon completing the required minimum 96 quarter hours for graduation, including the minimum in each area listed below:

CORE CURRICULUM

	minimum hours required
Communications	9
English Composition 1304, 1305, 1306	
*Science and/or Mathematics	10
Must be selected from the following course prefixes: MAT, BIO, CHM, GEL, GEO, PHY	
*Humanities	12
Six hours must be taken outside the major area of concentration. Humanities must be selected from the following course prefixes: ART, DRA, FRE, GRK, GER, HUM, LIT, MUS, PHI, SPA, SPH	
*Social Science	10
Must be selected from the following course prefixes: ANT, ECO, HIS, POL, PSY, SOC	
*Physical Education	3
Must be selected from the following course prefixes: HED, HPE	

Major Area of Concentration in ART

Students pursuing the AFA degree in ART are required to take the following courses:

History of Art I, II, III Drawing I, II, III
Design I, II, III

Twelve hours in specific major area of concentration
Electives to bring total hours to 96 hours.

Major Area of Concentration in Dance

Students pursuing the AFA degree in DANCE are required to take the following courses:

Ballet I, II, III Advanced Modern I, II, III
Modern I, II, III Choreography I, II, III
Dance Production Music Appreciation I
Dance Technique Electives Human Anatomy and
Dance History Physiology
Contemporary Dance Styles Music for Dancers
Advanced Ballet I, II, III

Electives to bring total hours to 96 hours.

Major Area of Concentration in Drama

Students pursuing an AFA degree in DRAMA are required to take the following courses:

Introduction to Theater Music Appreciation
Stagecraft Class Voice
Acting I, II Dance Electives
Introduction to Drama Directing
Play Production Scene Design I
Make-Up Design Advanced Directing
Dance for Musical Theater Advanced Production
Playwriting

Electives to bring total hours to 96 hours.

Major Area of Concentration in Music

Students pursuing an AFA degree in MUSIC are required to take the following courses:

Class Piano I, II, III Music Theory I, II, III
Advanced Music Theory I, II, Ensemble
III Applied Music
Advanced Applied Music II History & Literature of
Music I, II, III

Electives to bring total hours to 96 hours.

LIST OF COURSES WHICH CAN BE USED TO MEET CORE REQUIREMENTS OF THE ASSOCIATE IN ARTS AND ASSOCIATE IN FINE ARTS DEGREES:

BEHAVIORAL AND SOCIAL SCIENCES

ANT	1502	General Anthropology
ECO	2304	Economics I (Macro)
ECO	2305	Economics II (Micro)
ECO	2306	Economics III
HIS	1500	World Civilization I
HIS	1501	World Civilization II
HIS	1502	American History I
HIS	1503	American History II
HIS	1510	American Civil War
HIS	1520	Black History I
HIS	1521	Black History II
HIS	2500	North Carolina History
HIS	2504	Special Topics in History
HIS	2520	Oriental Civilization
HIS	2530	Russian History
POL	1502	American Politics
POL	1510	Introduction to Comparative Politics
POL	1511	Introduction to International Relations
POL	2500	State and Urban Politics
POL	2501	Political Ideologies
POL	2504	Special Topics in Political Science
PSY	2500	Educational Psychology
PSY	2504	General Psychology
PSY	2505	Human Development
PSY	2514	Abnormal Psychology
PSY	2524	Mental Retardation
PSY	2536	Special Problems in Psychology
SOC	1301	Group Interaction
SOC	1500	Sociology of the Family
SOC	2501	People & Environment
SOC	2514	Introduction to Sociology
SOC	2515	Social Problems
SOC	2524	Special Problems of Sociology

HEALTH AND PHYSICAL EDUCATION

HED	1100	Health Education I
HED	1101	Health Education II
HED	1102	Health Education III
HED	1111	Special Health Problems
HED	1200	Public Health & Sanitation
HED	1201	Special Health Problems
HED	1202	Drugs & Related Issues
HED	1203	CPR
HED	1204	First Aid I
HED	1205	First Aid II
HED	1206	Advanced First Aid & Emergency Care
HED	1207	CPR Instructor
HED	1301	Special Health Problems
HED	1310	Your Health Your Choice
HPE	1100	Individual Activity
HPE	1103	Water Skiing
HPE	1104	Fencing, Beginning
HPE	1107	Self Defense & Physical Conditioning, Beginning
HPE	1108	Self Defense & Physical Conditioning, Intermediate
HPE	1109	Self Defense & Physical Conditioning, Advanced
HPE	1111	Scuba Diving
HPE	1114	Snow Skiing, Beginning
HPE	1117	Ice Skating, Beginning
HPE	1123	Physical Fitness, Beginning
HPE	1124	Physical Fitness, Intermediate
HPE	1126	Social Dance, Beginning

HPE	1134	Basic Course of American Square Dancing
HPE	1138	Clogging, Beginning
HPE	1140	Self Protection for Women
HPE	1141	Jogging
HPE	1144	Golf, Beginning
HPE	1147	Tennis, Beginning
HPE	1154	Tap Dancing, Beginning
HPE	1157	Jazz Dance, Beginning
HPE	1164	Yoga, Beginning
HPE	1170	Aerobics
HPE	1174	Mountaineering I
HPE	1176	Basic Outdoor Skills I
HPE	1178	Horseback Riding, Beginning
HPE	1184	Swimming, Beginning
HPE	1185	Swimming, Advanced Beginner
HPE	1186	Swimming, Intermediate
HPE	1187	Swimming, "Swimmer"
HPE	1188	Swimming, Life Saving
HPE	1189	Swimming, Water Safety Instructor
HPE	1193	Slimnastics, Beginning
HPE	1194	Slimnastics, Intermediate
HPE	1195	Slimnastics, Advanced
HPE	1196	Gymnastics, Beginning
HPE	1197	Gymnastics, Intermediate
HPE	1198	Bowling, Beginning
HPE	2112	Canoing, Basic
HPE	2113	Canoing, Rivers
HPE	2114	Canoing, Basic, Whitewater

HUMANITIES

ART	1300	Introduction to Art I
ART	1301	Introduction to Art II
ART	1310	History of Art I
ART	1311	History of Art II
ART	1312	History of Art III
DRA	1300	Introduction to Drama
DRA	2414	Film Criticism
HUM	1300	Ascent of Man
HUM	1304	Current Dramatic Events
HUM	1314	The Novel
HUM	1319	Mythology
HUM	1324	Science Fiction
HUM	1329	Russian Literature and Culture
HUM	1330	Women's Images in Fiction
HUM	1500	Humanities: Classical to Medieval
HUM	1501	Humanities: Renaissance to Present
HUM	2320	Special Topics
LIT	2314	Contemporary Literature
LIT	2320	Special Topics
LIT	2324	The Bible as Literature
LIT	2504	British Literature, 1300 - 1800
LIT	2505	British Literature, 1800 - Present
LIT	2514	American Literature, 1800 - 1900
LIT	2515	American Literature, 1900 - Present
LIT	2534	World Literature
MUS	1300	Introduction to Music I
MUS	1301	Introduction to Music II
MUS	1314	Music Appreciation I
MUS	1315	Music Appreciation II
MUS	1316	Music Appreciation III
MUS	1404	Music Theory I
MUS	1405	Music Theory II
MUS	1406	Music Theory III
MUS	2404	History & Literature Music I
MUS	2405	History & Literature Music II
MUS	2406	History & Literature Music III
MUS	2407	Advanced Music Theory I
MUS	2408	Advanced Music Theory II
MUS	2409	Advanced Music Theory III
PHI	1500	Introduction to Philosophy
PHI	2500	Logic
SPH	1301	Persuasive Speaking
SPH	2300	Voice and Diction

Transfer Programs

SPH	2304	Public Speaking
*FRE	2600	Intermediate French I
*FRE	2601	Intermediate French II
*GER	2600	Intermediate German I
*GER	2601	Intermediate German II
*SPA	2600	Intermediate Spanish I
*SPA	2601	Intermediate Spanish II

* May be used towards Humanities requirements if both courses are completed.

LABORATORY SCIENCES

BIOLOGICAL SCIENCES

BIO	1500	Biological Science
BIO	1501	General Botany
BIO	1502	General Zoology
BIO	1503	Microbiology
BIO	1504	Human Anatomy & Physiology I
BIO	1505	Human Anatomy & Physiology II
BIO	2500	Introduction to Entomology
BIO	2501	Ornithology
BIO	2502	Marine Biology
BIO	2504	Selected Topics in Biology
BIO	2514	Vertebrate Zoology
BIO	2524	General Ecology

PHYSICAL SCIENCES

CHM	1500	Introductory Chemistry
CHM	1501	Chemistry for the Health Professions I
CHM	1502	Chemistry for the Health Professions II
CHM	1504	General Chemistry I
CHM	1505	General Chemistry II
CHM	1506	General Chemistry III
CHM	2304	Special Problems
CHM	2604	Quantitative Chemical Analysis
CHM	2614	Organic Chemistry I
CHM	2615	Organic Chemistry II
GEL	1604	Physical Geology
GEL	2605	Historical Geology
GEO	1614	Introduction to Phys. Geography
PHY	1400	Science & Society
PHY	1404	Physics I: Basic Mechanics
PHY	1405	Physics II: Elastic & Thermal Properties of Matter
PHY	1406	Physics III: Electricity & Mag.
PHY	1407	Physics IV: Modern Physics
PHY	1500	Introduction to Astronomy
PHY	2504	General Physics I: Mechanics
PHY	2505	General Physics II: Molecular Physics & Waves
PHY	2506	General Physics III: Electricity & Magnetism
PHY	2607	General Physics IV: Optics & Modern Physics

MATHEMATICS

MAT	1500	Mathematics for Modern Living
MAT	1504	College Algebra I
MAT	1505	College Algebra II
MAT	1514	Precalculus Mathematics I
MAT	1515	Precalculus Mathematics II
MAT	1516	Introductory Calculus
MAT	1524	Analytic Geometry & Calculus I
MAT	2504	Analytic Geometry & Calculus II
MAT	2505	Analytic Geometry & Calculus II
MAT	2506	Analytic Geometry & Calculus IV
MAT	2508	Introduction to Ordinary Differential Equations
MAT	2514	Statistics I
MAT	2515	Statistics II
MAT	2590	Individual Study

NOTE: Electives are provided to enable an individual to select courses applicable to a senior institution in liberal arts and certain professional areas such as:

LIBERAL ARTS
PRE-BUSINESS AND PUBLIC ADMINISTRATION
PRE-ENGINEERING
PRE-LAW

PRE-DENTAL
PRE-EDUCATION (Elementary)
PRE-EDUCATION (Secondary)
PRE-JOURNALISM
PRE-MATHEMATICS
PRE-MEDICAL
PRE-OPTOMETRY
PRE-PHARMACOLOGY
PRE-TEXTILE

TRANSFER PROGRAMS

The community College Advisory Committee, including representatives of state-supported colleges and universities, has worked with the Department of Community Colleges and Central Piedmont Community College to assist in the development of curricula acceptable to the senior institutions of the area. Consequently, courses taken at Central Piedmont Community College should transfer in credit to the institution as applicable to the curriculum for which such courses were intended. The student is able to transfer to the senior institution with junior status after completing one of the transfer degrees at Central Piedmont Community College. Counselors and faculty members are ready to assist the student in courses selection. Students, however, are responsible for familiarizing themselves with transfer requirements to respective senior institutions and for making periodic checks of personal progress while completing freshman and sophomore requirements.

Each course listing begins with three capitalized letters and a number. The letters are an abbreviation of the course name; courses beginning with a 1 or 2 are considered transfer courses. Courses are listed in alphanumerical order in the Course Description section of this catalog. Following the number is the name of the course and a brief course description. Following the description are additional numbers. The numbers in parentheses indicate the number of lecture and laboratory hours. The last number indicates the number of credit hours received upon successful completion of the course. Departmental course listings follow.

Accounting

The accounting courses are designed to develop the student's knowledge and understanding of fundamental and advanced principles and concepts of accounting; to develop the student's skill in recording data and operating machines needed on the job; and to familiarize the student with the areas in which accounting is used in the business community and the manner in which many businesses depend upon accounting as a management tool.

		QTR		
COURSE TITLE		HRS/WK	CLS	LAB CR
ACC	1604	Principles of Accounting I	5	2 6
ACC	1605	Principles of Accounting II	5	2 6
		QTR		
COURSE TITLE		HRS/WK	CLS	LAB CR
ACC	2626	Intermediate Accounting I	5	2 6
ACC	2627	Intermediate Accounting II	5	2 6

Art

The Art Division seeks to provide an environment including both instruction and experience which will enable its students to define the visual statements they wish to make and to equip them with the skills to make them. The broad range of courses offered seeks to provide for the wide variety of experience, interest, aptitude, and purpose of students. Opportunity for growth in skills, knowledge, and

appreciation are offered for both the beginning and the experienced student.

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
ART 1200 Fiber Dyes	0	4	2	
ART 1300 Introduction to Art I	3	0	3	
ART 1301 Introduction to Art II	3	0	3	
ART 1302 Art Education	2	2	3	
ART 1303 Printmaking II	0	6	3	
ART 1304 General Drawing I	0	6	3	
ART 1305 General Drawing II	0	6	3	
ART 1306 General Drawing III	0	6	3	
ART 1310 History of Art I	3	0	3	
ART 1311 History of Art II	3	0	3	
ART 1312 History of Art III	3	0	3	
ART 1314 Basic Woodworking	0	6	3	
ART 1315 Intermediate Woodworking	0	6	3	
ART 1316 Advanced Woodworking	0	6	3	
ART 1317 Furniture Restoration I	0	6	3	
ART 1318 Furniture Restoration II	0	6	3	
ART 1319 Furniture Restoration III	0	6	3	
ART 1321 Printmaking I	0	6	3	
ART 1322 Crafts	0	6	3	
ART 1324 Design I	0	6	3	
ART 1325 Design II	0	6	3	
ART 1326 Design III	0	6	3	
ART 1327 Sculpture I	0	6	3	
ART 1328 Sculpture II	0	6	3	
ART 1329 Sculpture III	0	6	3	
ART 1333 Stained Glass	0	6	3	
ART 1335 Painting I	0	6	3	
ART 1336 Painting III	0	6	3	
ART 1344 Weaving I	0	6	3	
ART 1345 Weaving II	0	6	3	
ART 1346 Weaving III	0	6	3	
ART 1347 Weaving IV	0	6	3	
ART 1360 Raku	0	6	3	
ART 1364 Ceramics I	0	6	3	
ART 1365 Ceramics II	0	6	3	
ART 1366 Ceramics III	0	6	3	
ART 1374 Jewelry I	0	6	3	
ART 1375 Jewelry II	0	6	3	
ART 1376 Jewelry III	0	6	3	
ART 1384 Basic Camera Techniques	3	0	3	
ART 1385 Photo Lab Processes I	1	4	3	
ART 1386 Photo Lab Processes II	1	4	3	
ART 1389 Color Printing I	1	4	3	
ART 1390 Color Printing II	1	4	3	
ART 1392 Advanced Camera Techniques	0	3	3	
ART 2304 Independent Studio	0	6	3	
ART 2322 Surface Design for Textiles	0	6	3	

Behavioral and Social Sciences

The courses offered in this department are designed to enable students to understand the social, cultural, psychological, political and historical development of society. Emphasis is placed upon how to apply social science principles to modern life.

ANTHROPOLOGY

ANT 1502	General Anthropology	5	05	
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HISTORY

HIS 1500	World Civilization I	5	0	5
HIS 1501	World Civilization II	5	0	5

PSYCHOLOGY

PSY 2500	Educational Psychology	5	0	5
PSY 2504	General Psychology	5	0	5
PSY 2505	Human Development	5	0	5
PSY 2514	Abnormal Psychology	5	0	5
PSY 2524	Mental Retardation	5	0	5
PSY 2536	Special Problems in Psychology	5	0	5

EDUCATION

EDU 2500	Introduction to Education	5	0	5
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GENERAL COLLEGE COURSES

GEN 1512	Divorce	5	0	5
GEN 1514	World War II	5	0	5

POLITICAL SCIENCE

POL 1502	American Politics	5	0	5
POL 1510	Intro. to Comparative Politics	5	0	5
POL 1511	Introduction to International Relations	5	0	5
POL 2104	-2504 Special Topics in Political Science	1 to 5		
POL 2500	State and Local Politics	5	0	5
POL 2501	Political Ideologies	5	0	5

SOCIOLOGY

SOC 1301	Group Interaction	3	0	3
SOC 1500	Sociology of the Family	5	0	5
SOC 2501	People & Their Environment	5	0	5
SOC 2514	Introduction to Sociology	5	0	5
SOC 2515	Social Problems	5	0	5
SOC 2524	Special Problems of Sociology	5	0	5

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

Biology

The Biology curriculum is designed to prepare students for professional careers in the life sciences and related areas; to teach students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data and to be thorough in considering all aspects of a problem; to impart knowledge of the fauna and flora of this region for aesthetic as well as functional usage; to understand the role of the life sciences in mastering environments; to help students recognize themselves as highly complex members of the living world for which they are responsible; to help students become more knowledgeable citizens, parents, and leaders.

COURSE TITLE	HRS/WK	QTR		
		CLS	LAB	CR
BIO 1500	Biological Science	3	4	5
BIO 1501	General Botany	3	4	5
BIO 1502	General Zoology	3	4	5
BIO 1503	Microbiology	3	4	5
BIO 1504	Human Anatomy & Physiology I	3	4	5
BIO 1505	Human Anatomy & Physiology II	3	4	5
BIO 2300	Genetics	3	0	3
BIO 2304	Human Nutrition	3	0	3
BIO 2305	Dental Nutrition	3	0	3
BIO 2500	Introduction to Entomology	3	4	5
BIO 2501	Ornithology	3	4	5
BIO 2502	Marine Biology	3	4	5
BIO 2504	Selected Topics in Biology	3	4	5
BIO 2514	Vertebrate Zoology	3	4	5
BIO 2524	General Ecology	3	4	5

NOTE: Courses beginning with a 1 or a 2 are considered transfer courses.

Business Administration

The Business Administration courses which are transferable to four year colleges and universities should provide students with the necessary background in business law, economics and management to enroll in junior and senior level business courses at the receiving college. However, the student should consult the catalog of the receiving college or university for its requirements.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
BUS 1400	Introduction to Business	3	2	4
BUS 2304	Business Law I	3	0	3
BUS 2305	Business Law II	3	0	3
BUS 2306	Business Law III	3	0	3
ECO 2304	Economics I (Macro)	3	0	3
ECO 2305	Economics II (Micro)	3	0	3
ECO 2306	Economics III	3	0	3
MGT 2314	Principles of Management	3	0	3
MKT 1304	Marketing I	3	0	3
MKT 1305	Marketing II	3	0	3

Communications

These courses are designed to help students improve their written and oral communication skills. Students read to observe the development of ideas by various techniques of expression, and they engage in discussion to find a logical relationship between idea and expression. They write and speak to develop their own skills in clear, accurate, and effective expression.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
COM 1304	Introduction to Communication	3	0	3
COM 1305	English Composition II	3	0	3
COM 1306	English Composition III	3	0	3
COM 1324	Creative Writing	3	0	3
COM 1325	Advanced Creative Writing	3	0	3
COM 2390	Individual Study	3	0	3
JOU 1300	News Writing	2	3	3
SPH 1300	Oral Communications	3	0	3
SPH 1301	Persuasive Speaking	3	0	3
SPH 2101	Parliamentary Procedure	1	0	1
SPH 2300	Voice and Diction	3	0	3
SPH 2304	Public Speaking	3	0	3

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.

Computer Science

The Computer Science Department offers courses for college transfer students to meet Computer Science requirements and/or to use as electives. Students should see an advisor or counselor in their major area or a member of the Computer Science faculty to determine the appropriate sequence to meet their objectives.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
EDP 1404	Computer Concepts & FORTRAN Programming I	3	2	4
EDP 1405	FORTRAN Programming II	3	2	4

EDP 2306	Computer Programming I (Business)	2	2	3
EDP 2307	Computer Programming II (Business)	2	2	3
EDP 2308	Computer Systems & Assembly Language I	2	2	3
EDP 2309	Computer Systems & Assembly Language II	2	2	3
EDP 2514	Statistical & Numerical Programming	4	2	5

Consumer Education

The Consumer Education course is designed to provide the consumer a practical perspective in both everyday and long-range personal financing. Upon successful completion of this course, the student should better understand the complexities of money management, credit, consumer law, buying, investing and giving.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
CED 1500	Consumer Education	5	0	5

Health and Physical Education

The Health and Physical Education curriculum is designed to provide instruction which will lead to healthful living and to provide experience in physical activities which will lead to acquisition of skill and fitness with leisure-time or recreational value.

HEALTH

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
HED 1100	Health Education I	1	0	1
HED 1101	Health Education II	1	0	1
HED 1102	Health Education III	1	0	1
HED 1111	Special Health Problems	1	0	1
HED 1200	Public Health & Sanitation	2	0	2
HED 1201	Special Health Problems	2	0	2
HED 1202	Drugs & Related Issues	2	0	2
HED 1203	Cardiopulmonary Resuscitation (CPR)	2	0	2
HED 1204	First Aid I	1	2	2
HED 1205	First Aid II	1	2	2
HED 1206	Advanced First Aid and Emergency Care	1	2	2
HED 1207	CPR Instructor	2	0	2
HED 1301	Special Health Problems	3	0	3
HED 1310	Your Health - Your Choice	2	2	3

PHYSICAL EDUCATION SKILLS

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
HPE 1100	Individual Activity	0	3	1
HPE 1101	Archery	0	3	1
HPE 1103	Water Skiing	0	3	1
HPE 1104	Fencing-Beginning	0	3	1
HPE 1105	Fencing - Intermediate	0	3	1
HPE 1106	Fencing - Advanced	0	3	1
HPE 1107	Self Defense & Physical Cond. - Beginning	0	3	1
HPE 1108	Self Defense & Physical Conditioning - Intermediate	0	3	1

HPE 1109	Self Defense & Physical Conditioning - Advanced	0	3	1
HPE 1110	Camping, Trailer	0	3	1
HPE 1111	Scuba Diving	0	3	1
HPE 1114	Snow Skiing - Beginning	0	3	1
HPE 1115	Snow Skiing - Intermediate	0	3	1
HPE 1116	Snow Skiing - Advanced	0	3	1
HPE 1117	Ice Skating - Beginning	0	3	1
HPE 1118	Ice Skating - Intermediate	0	3	1
HPE 1119	Ice Skating - Advanced	0	3	1
HPE 1123	Physical Fitness - Beginning	0	3	1
HPE 1124	Physical Fitness Intermediate	0	3	1
HPE 1126	Social Dance - Beginning	0	3	1
HPE 1127	Social Dance - Advanced Beginner	0	3	1
HPE 1128	Social Dance - Intermediate	0	3	1
HPE 1129	Social Dance - Advanced	0	3	1
HPE 1131	Current Trends in Social Dance	0	3	1
HPE 1134	Basic Course of American Square Dance	0	3	1
HPE 1135	Extended Basic Course of American Square Dancing	0	3	1
HPE 1136	Advanced Basic Course of American Square Dancing	0	3	1
HPE 1137	Exploratory Square Dance Class	0	3	1
HPE 1138	Clogging - Beginning	0	3	1
HPE 1139	Clogging - Intermediate	0	3	1
HPE 1140	Self Protection For Women	0	3	1
HPE 1141	Jogging	0	3	1
HPE 1144	Golf-Beginning	0	3	1
HPE 1145	Golf-Intermediate	0	3	1
HPE 1146	Golf-Advanced	0	3	1
HPE 1147	Tennis-Beginning	0	3	1
HPE 1148	Tennis-Intermediate	0	3	1
HPE 1149	Tennis-Advanced	0	3	1
HPE 1154	Tap Dancing - Beginning	0	3	1
HPE 1155	Tap Dancing - Intermediate	0	3	1
HPE 1156	Tap Dancing - Advanced	0	3	1
HPE 1157	Jazz Dance - Beginning	0	3	1
HPE 1158	Jazz Dance - Intermediate	0	3	1
HPE 1159	Jazz Dance - Advanced	0	3	1
HPE 1164	Yoga - Beginning	0	3	1
HPE 1165	Yoga - Intermediate	0	3	1
HPE 1166	Yoga - Advanced	0	3	1
HPE 1170	Aerobics	0	3	1
HPE 1174	Mountaineering I	0	3	1
HPE 1175	Mountaineering II	0	3	1
HPE 1176	Outdoor Skills (Basic)	0	3	1
HPE 1177	Outdoor Skills II	0	3	1
HPE 1178	Horseback Riding, Beginning	0	3	1
HPE 1179	Horseback Riding - Advanced	0	3	1
HPE 1184	Swimming - Beginner	0	3	1
HPE 1185	Swimming - Advanced Beginner	0	3	1
HPE 1186	Swimming - Intermediate	0	3	1
HPE 1187	Swimming - "Swimmer"	0	3	1
HPE 1188	Life Saving	0	3	1
HPE 1189	Water Safety Instruction	0	3	1
HPE 1193	Slimnastics - Beginning	0	3	1
HPE 1194	Slimnastics - Intermediate	0	3	1
HPE 1195	Slimnastics - Advanced	0	3	1
HPE 1196	Gymnastics - Beginning	0	3	1
HPE 1197	Gymnastics - Intermediate	0	3	1
HPE 1198	Bowling - Beginning	0	3	1
HPE 1199	Bowling - Intermediate	0	3	1
HPE 1404	Introduction to Recreation Services	3	3	4
HPE 1414	Water Activities	2	6	4
HPE 1504	Relays and Games of Low Organization and Team Sports	3	6	5
HPE 2112	Canoing Basic	0	3	1
HPE 2113	Canoing Rivers	0	3	1
HPE 2114	Canoing Basic White Water	0	3	1
HPE 2200	Sports Officiating	1	3	2
HPE 2204	Prevention and Treatment of Athletic Injuries	1	3	2

HPE 2314	Individual Lifetime Recreational Activities	2	3	3
HPE 2315	Scheduling Special Events and Tournaments	2	3	3
HPE 2325	Introduction to Outdoor Education	2	3	3
HPE 2424	Program Planning & Organization	3	3	4
HPE 2434	Recreation & Special Health Problems	3	3	4
HPE 2445	Principles of Body Mechanics and Physical Fitness	3	3	4

Humanities

The courses in language and literature offer opportunities for students to explore a wide range of ideas and values, to recognize their own needs as human beings, and ultimately to gain some perspective for making choices as individuals and as members of society.

All courses with HUM, LIT, and PHI prefixes count toward the humanities requirement. Also, FRE 2600 and FRE 2601, or SPA 2600 and SPA 2601, or GER 2600 and GER 2601 will satisfy the humanities requirement if both courses in a foreign language are completed.

FRENCH

FRE 1300	Travel French	3	1	3
FRE 16009	Elementary French I	5	2	6
FRE 1601	Elementary French II	5	2	6
FRE 2320	Special Topics	3	0	3
FRE 2600	Intermediate French I	5	2	6
FRE 2601	Intermediate French II	5	2	6

GERMAN

GER 1600	Elementary German I	5	2	6
GER 1601	Elementary German II	5	2	6
GER 2600	Intermediate German I	5	2	6
GER 2601	Intermediate German II	5	2	6

HUMANITIES

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
HUM 1300	The Ascent of Man	3	0	3
HUM 1304	Current Dramatic Events	3	0	3
HUM 1314	The Novel	3	0	3
HUM 1319	Mythology	3	0	3
HUM 1324	Science Fiction	3	0	3
HUM 1329	Russian Literature & Culture	3	0	3
HUM 1330	Women's Images in Fiction	3	0	3
HUM 1500	Humanities - Classical to Medieval	5	0	5
HUM 1501	Humanities - Renaissance to Present	5	0	5
HUM 2320	Special Topics	3	0	3

LITERATURE

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
LIT 2314	Contemporary Literature	3	0	3
LIT 2320	Special Topics	3	0	3
LIT 2324	The Bible as Literature	3	0	3
LIT 2504	British Literature: 1300 - 1800	5	0	5
LIT 2505	British Literature: 1800 - Present	5	0	5
LIT 2514	American Literature: 1800 - 1900	5	0	5
LIT 2515	American Literature: 1900 - Present	5	0	5
LIT 2534	World Literature	5	0	5

PHILOSOPHY

PHI 1500	Introduction to Philosophy	5	0	5
PHI 2500	Logic	5	0	5

SPANISH

SPA 1300	Travel Spanish	3	1	3
SPA 1600	Elementary Spanish I	5	2	6
SPA 1601	Elementary Spanish II	5	2	6
SPA 2320	Special Topics	3	0	3
SPA 2600	Intermediate Spanish I	5	2	6
SPA 2601	Intermediate Spanish II	5	2	6

Mathematics

The Mathematics courses are designed to prepare students for professional careers in mathematics and related areas, to develop student knowledge and understanding of the fundamental principles and concepts of mathematics, to develop manipulative skills and the ability to apply mathematics to physical situations, and to satisfy the requirements of other college programs.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
MAT 1500	Mathematics for Modern Living	5	0	5
MAT 1504	College Algebra I	5	0	5
MAT 1505	College Algebra II	5	0	5
MAT 1514	Precalculus Mathematics I	5	0	5
MAT 1515	Precalculus Mathematics II	5	0	5
MAT 1516	Introductory Calculus	5	0	5
MAT 1524	Analytic Geometry & Cal. I	5	0	5
MAT 2504	Analytic Geometry & Cal. II	5	0	5
MAT 2505	Analytic Geometry & Cal. III	5	0	5
MAT 2506	Analytic Geometry & Cal. IV	5	0	5
MAT 2508	Introduction to Ordinary Differential Equations	5	0	5
MAT 2514	Statistics I	5	0	5
MAT 2515	Statistics II	5	0	5
MAT 2590	Individual Study	5	0	5

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.

Performing Arts

DRAMA

The Drama courses permit students to learn theater practice and theories by involving them in regular college theater productions. They have the opportunity to learn basic backstage procedures in addition to acting in plays. Basic theater courses in play production, stagecraft, theater history, acting, directing, and scene design are open to all students. The College theater productions are correlated with course activities whenever possible.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
DRA 1300	Introduction to Drama	3	0	3
DRA 1301	Stagecraft	1	4	3
DRA 1302	Scene Design	1	4	3
DRA 1303	Acting	1	4	3
DRA 1304	Advanced Acting	1	4	3
DRA 1310	Play Production - One Acts	0	6	3
DRA 1311	Play Production - Comedy/Drama	0	6	3
DRA 1312	Play Production - Musical	0	6	3
DRA 2204	Special Problems in Drama	1	3	2
DRA 2304	Directing	1	4	3
DRA 2311	Advanced Play Production Comedy/Drama	0	12	3
DRA 2312	Advanced Play Production Musical	0	12	3
DRA 2414	Film Criticism	3	2	4

MUSIC AND DANCE

The Music courses are designed to provide opportunities to the greatest number of students to share in the heritage of musical culture and skills. Emphasis is placed on creative participation in performance and upon music as a medium of communication. Music is also studied as a reflection of the cultures that created it — whether present or past.

The Dance courses provide an opportunity for the student to become acquainted with the habits of a dancer in training and encourages the student to view dance performances critically. By participating in the numerous technique classes offered, students are given the opportunity to improve their own skills of dance (modern and ballet) technique. In addition to technique classes, dance production classes guide students in the use of basic performance skills, developing a sense of musical interpretation and movement phrasing.

COURSE TITLE		QTR		
		HRS/WK	CLS	LAB CR
MUS 1100	Vocal Ensemble	0	3	1
MUS 1104	Class Voice	0	2	1
MUS 1107	Chamber Choir	0	3	1
MUS 1112	Class Strings	0	3	1
MUS 1117	Wind Ensemble	0	3	1
MUS 1127	Orchestra	0	3	1
MUS 1128	Concert Band	0	4	1
MUS 1154	Class Piano I	0	3	1
MUS 1155	Class Piano II	0	3	1
MUS 1156	Class Piano III	0	3	1
MUS 1157	Intermediate Piano	0	3	1
MUS 1160	Classical & Flamenco Guitar	0	3	1
MUS 1183	Introduction to Modern Dance	0	3	1
MUS 1184	Modern Dance I	0	3	1
MUS 1185	Modern Dance II	0	3	1
MUS 1186	Modern Dance III	0	3	1
MUS 1190	Character Dance	0	3	1
MUS 1193	Introduction to Ballet	0	3	1
MUS 1194	Ballet I	0	3	1
MUS 1195	Ballet II	0	3	1
MUS 1196	Ballet III	0	3	1
MUS 1197	Ballet Pointe Work	0	3	1
MUS 1164	Guitar	0	3	1
MUS 1165	Intermediate Guitar	0	3	1
MUS 1171	Chords I	0	2	1
MUS 1172	Chords II	0	2	1
MUS 1174	Applied Music I	1	0	1
MUS 1274	Applied Music II	2	0	2
MUS 1300	Introduction to Music I	3	0	3
MUS 1301	Introduction to Music II	3	0	3
MUS 1304	Children's Music I	3	0	3
MUS 1305	Children's Music II	3	0	3
MUS 1310	Introduction to Music Theory	3	0	3
MUS 1314	Music Appreciation I	3	0	3
MUS 1315	Music Appreciation II	3	0	3
MUS 1316	Music Appreciation III	3	0	3
MUS 1324	Recording Studio Tech. I	3	0	3
MUS 1325	Recording Studio Tech. II	0	6	3
MUS 1326	Recording Studio Tech. III	0	6	3
MUS 1334	Music Manuscript I: Autography & Preparation	2	2	3
MUS 1335	Music Manuscript II	2	2	3
MUS 1404	Music Theory I	3	2	4
MUS 1405	Music Theory II	3	2	4
MUS 1406	Music Theory III	3	2	4
MUS 2000	Seminar in Music	TBA		
MUS 2100	Seminar in Music	TBA		
MUS 2154	Advanced Class Piano I	0	3	1
MUS 2155	Advanced Class Piano II	0	3	1
MUS 2156	Advanced Class Piano III	0	3	1
MUS 2158	Piano Ensemble	0	3	1
MUS 2174	Advanced Applied Music I	1	0	1
MUS 2184	Advanced Modern Dance I	0	3	1

MUS 2185	Advanced Modern Dance II	0	3	1
MUS 2186	Advanced Modern Dance III	0	3	1
MUS 2194	Advanced Ballet I	0	3	1
MUS 2195	Advanced Ballet II	0	3	1
MUS 2196	Advanced Ballet III	0	3	1
MUS 2200	Seminar in Music	TBA		2
MUS 2204	Special Problems in Music	1	3	2
MUS 2257	Jazz Piano	1	3	2
MUS 2274	Advanced Applied Music II	2	0	2
MUS 2284	Choreography I	0	4	2
MUS 2285	Choreography II	0	4	2
MUS 2286	Choreography III	0	4	2
MUS 2300	Seminar in Music	TBA		3
MUS 2338	Opera Workshop	0	6	3
MUS 2404	History & Lit. of Music I	3	2	4
MUS 2405	History & Lit. of Music II	3	2	4
MUS 2406	History & Lit. of Music III	3	2	4
MUS 2407	Advanced Music Theory I	3	2	4
MUS 2408	Advanced Music Theory II	3	2	4
MUS 2409	Advanced Music Theory III	3	2	4

NOTE (1) A maximum of six quarter hours of applied music may be counted toward an A.A. degree.

NOTE (2) A maximum of six quarter hours of applied repertory may be counted toward an A.A. degree.

NOTE (3) A maximum of six quarter hours of choral and/or instrumental ensemble may be counted toward an A.A. degree.

Physical Science

The Physical Science courses are designed to prepare students for the professional courses in science and related areas, to teach the students to apply the scientific method, to think logically and systematically, to have an open-minded attitude in interpreting data, to be thorough in considering all aspects of a problem; to prepare people to live in a complex society; to impart knowledge of scientific facts; and to promote an understanding of the contributions that physical science has made and is making to the ability to master the environment.

CHEMISTRY

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
CHM 1500	Introduction to Chemistry	3	4	5
CHM 1501	Chemistry for Health Professions I	3	4	5
CHM 1502	Chemistry for Health Professions II	3	4	5
*CHM 1504	General Chemistry	3	4	5
*CHM 1505	General Chemistry II	3	4	5
*CHM 1506	General Chemistry III	3	4	5
CHM2 04	Special Problems		3	5
CHM2414	Introductory Organic Chemistry	4	0	4
*CHM2455	Textile Coloring & Testing	2	4	4
*CHM2604	Quantitative Chemical Analysis	3	6	6
*CHM2614	Organic Chemistry I	4	4	6
*CHM2615	Organic Chemistry II	4	4	6
*CHM2625	Chromatography	3	6	6
*CHM2626	Optical Methods Chemical Analysis	3	6	6

GEOLOGY

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
GEL 1604	Physical Geology	5	2	6
GEL 2605	Historical Geology	5	2	6

GEOGRAPHY

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
GEO 1614	Intro. to Physical Geography	5	2	6

PHYSICS

COURSE TITLE	QTR			
	HRS/WK	CLS	LAB	CR
PHY 1300	Science & Society	3	0	3
PHY 1400	Science & Society	3	2	4
PHY 1404	Physics I: Basic Mechanics	3	2	4
PHY 1405	Physics II: Elastic & Thermal Property of Matter	3	2	4
PHY 1406	Physics III: Electricity & Magnetism	3	2	4
PHY 1407	Physics IV: Modern Physics	3	2	4
PHY 1500	Introduction to Astronomy	4	2	5
PHY 2504	General Physics I: Mechanics	4	2	5
PHY 2505	General Physics II: Molecular Physics & Waves	4	2	5
PHY 2506	General Physics III: Electricity & Magnetism	4	2	5
PHY 2507	General Physics IV: Optics & Modern Physics	4	2	5
	Radiation Physics I	2	2	3
	Radiation Physics II	2	2	3
	Physics of Respiratory Therapy	3	2	4
	Shop Science I	2	2	3
	Shop Science II	2	2	3

*NOTE:

The Associate in Arts degree in Chemical Technology is no longer offered. However, it is possible for the students to concentrate their efforts in chemistry preparing to transfer to a 4 year Chemistry/Chemical Engineering program or entering the chemical industry after receiving the transfer Associate in Arts degree.

To accomplish this the student should take the chemistry courses marked by the asterisk and MAT 1514, MAT 1515, MAT 1516 and PHY 1404, PHY 1405, PHY 1406 or PHY 2504, PHY 2505, PHY 2506.

NOTE: Courses beginning with a 1 or 2 are considered transfer courses.





General College Improvement

ADVANCEMENT STUDIES GENERAL EDUCATION

General College Improvement courses are designed to meet individual needs within the diverse CPCC student population. The following programs and courses are included in General College Improvement.

ADVANCEMENT STUDIES DEPARTMENT

The Advancement Studies Department is based on the philosophy that each student has unique educational needs and goals. Once these goals are identified, they can best be accomplished by allowing the students to progress at their own pace in an open, caring atmosphere. This atmosphere is marked by its acceptance of the student as a unique individual who has specific needs.

Each course in the Advancement Studies Department has stated objectives, with a system designed to help each individual accomplish those objectives. Students may advance at their own pace from one objective to the next through individual modules of instruction, individualized multi-sensory programs and instructors who coordinate each learning segment.

Advancement Studies may be conceived as a developmental studies program for students who have never reached mastery level in mathematics, biology, chemistry, writing skills, and study skills. Or the program may be thought of as a new opportunity to the students who have decided to refine some of their skills, or to change their life style through learning. At the same time the program operates as a service program to the entire College by offering courses with fundamental skills, as well as courses with more advanced skills, depending upon the requests and desires of students and other departments. Advancement Studies recognizes that learning is a life-long process and new skills may be learned at any life stage.

Credit is granted for accomplishment of terminal objectives. These credits will receive grade points that add to the student's cumulative grade point average. The credits earned in the Advancement Studies Department meet the requirements for the degree Associate in General Education. Credits for Advancement Studies may or may not transfer to another institution depending on the course and the receiving institution.

COURSE TITLE		QTR			
		HRS/WK	CLS	LAB	CR
BIO 9500	Introduction to Biology	5	0	5	
CHM 9500	Fundamentals of Chemistry	0	10	5	
DRG 9502	Basic Calculations for Drug Administration	5	0	5	
ENG 9500	Effective Sentence Writing	5	5	5	
ENG 9505	Spelling and Vocabulary	5	0	5	
ENG 9510	Fundamentals of Writing	5	0	5	
LLB 9200	Classroom Success	0	3	2	
MAT 9500	Arithmetic	0	10	5	
MAT 9502	Algebra I	0	10	5	
MAT 9510	Developmental Algebra	5	0	5	
MAT 9511	Modern Geometry	5	0	5	
PTL 9000	Peer Tutoring Lab	0	3	0	

INTERNATIONAL CULTURE READING

GENERAL EDUCATION COURSES (GEN)

GEN courses provide students with specific study of general interest. These courses carry college credit. Ten (10) hours of GEN courses may be applied toward the Associate in Arts or Associate in Applied Sciences degree. GEN courses originate in and are taught through the different College departments.

COURSE TITLE		QTR			
		HRS/WK	CLS	LAB	CR
GEN 1141	Introduction to Nature Photography	0	22		1
GEN 1142	Field Biology/Ecology of North Carolina	0	22		1
GEN 1143	Edible Wild Plants	5	12		1

COURSE TITLE		QTR			
		HRS/WK	CLS	LAB	CR
GEN 1144	Ecology by Canoe	0	22		1
GEN 1149	Field Ornithology	0	22		1
GEN 1230	Writing to Sell	2	0		2
GEN 1512	Divorce	5	0		5

INTERNATIONAL CULTURE DEPARTMENT

The International Culture Department is presently offering courses which enable the student to master English As A Second Language. The program also enables students to study the customs and traditions of American culture while learning the language. All students in the program will also have the opportunity to take other academic and/or vocational courses when their language proficiency allows it. English As A Second Language courses in the International Culture Department are listed as ESL. Central Piedmont Community College is now a TOEFL (Test of English as a Foreign Language) Testing Center. The TOEFL Center also serves the Charlotte Area Educational Consortium.

COURSE TITLE		QTR			
		HRS/WK	CLS	LAB	CR
ESL 9102	Basic Survival ESL	0	2		1
ESL 9190	Teaching English as a 2nd Language	1	0		1
ESL 9201	Driver's Education	2	0		2
ESL 9301	English through Music	3	0		3
ESL 9303	The American Way	3	0		3
ESL 9304	American Citizenship	3	0		3
ESL 9310	English Handwriting	3	0		3

COURSE TITLE		QTR			
		HRS/WK	CLS	LAB	CR
ESL 9504	Conversational English I	3	4		5
ESL 9505	Conversational English II	3	4		5
ESL 9514	Grammar I	3	4		5
ESL 9515	Grammar II	3	4		5
ESL 9524	Vocabulary I	3	4		5
ESL 9525	Vocabulary II	3	4		5
ESL 9526	Vocabulary III	3	4		5
ESL 9534	Academic English I	3	4		5
ESL 9535	Academic English II	3	4		5

CONTINUED

READING DEPARTMENT

Reading permeates the entire curriculum, therefore, a high level of success in all subject matter areas is dependent upon the ability to read. The Reading Department is designed to prevent, correct, and eliminate problems in reading. The diagnoses of reading difficulties followed by the use of instructor-assisted, self-paced, and multimedia materials form the foundation for reading instruction.

The diversity of learner characteristics indicates varied levels of differentiated instruction geared to individual needs in order to accommodate all ability levels.

	COURSE TITLE	QTR		
		HRS/WK	CLS	LAB CR
RDN 9302	Advanced Vocabulary Improvement	3	0	3
RDN 9312	Speed Reading	3	0	2
RDN 9505	Reading Skills	5	0	5
RDN 9510	Reading Improvement	5	0	5

Continuing Education Program

The Continuing Education Program of Central Piedmont Community College provides adult education and extension courses for those individuals whose education stopped short of high school graduation, for those who wish instruction in home and family education, leisure activities, and for those who need short-term training, retraining or upgrading in a vocational or professional area.

College credit is not given for completion of courses in the Continuing Education Program; however, a certificate is awarded by the College in some cases. Licenses, diplomas or other forms of recognition are awarded by certain non-College agencies upon successful completion of designated course sequences.

Basic adult and high school completion courses require no fee. Personal and family improvement courses require a registration fee of eight dollars. Avocational/recreational courses require a charge of eighty-five cents per contact hour. Fees for avocational/recreational courses are non-refundable, unless the class is cancelled.

Admission requirements for courses in the Continuing Education Program depend upon the nature of the course. Admission to most of these classes is gained by registering during the regular College registration period; entry into some may be made at any time in the quarter. While some of these classes are conducted on the College campus, most are in Adult Centers which are located in schools scattered throughout the area or in other locations appropriate to the nature of the course.

Information about a specific course may be obtained from the College. General information about the present types of course offerings may be found in the following section. Other types of non-credit courses may be offered to meet the expressed needs of the community when evidence of these needs is presented to the College.

Adult Education, Community Services

Adult education and community service courses are offered for those whose education stopped short of high school graduation and/or for those who wish instruction in home and family, leisure time and cultural activities. The courses are made available to the community through Centers which are located throughout Charlotte-Mecklenburg and Union County.

ADULT BASIC EDUCATION

The Adult Continuing Education Program of Central Piedmont Community College offers classes in fundamental education to those adults who are between the levels of 0 Grade and 8th Grade. Adults in the Adult Basic Education classes are divided in three Levels:

Level I - Grades 0 through 3

Level II - Grades 4 through 6

Level III - Grades 7 and 8

For information, call 373-6864.

Upon completion of the 9th Grade, an adult may enroll in high school courses to obtain an adult high school diploma. Questions about these courses should be directed to: Director, Adult Education - 373-6698. There is no charge for these courses.

AVOCATIONAL/RECREATIONAL COURSES

The Adult Education Program offers courses for pastime and pleasure which are designated avocational/recreational. These courses are offered whenever interest is indicated by sixteen or more persons.

PERSONAL AND FAMILY IMPROVEMENT COURSES

Other courses designated personal and family improvement also are offered when interest is indicated by sixteen or more persons.

Personal Sewing	Current Events
Auto Care	Decoupage
World Religions	History of Religion
African Culture	Local History
Consumer Direction	Ethics
Macrame	Geometry
Basic Math	Personal Typing
Cake Decorating	Vocal Music
Calligraphy	Income Tax
Ceramics	Languages
Drugs & Medicine	Sketching
Oil Painting	Metric System
Arts & Crafts	Refresher Mathematics
Creative Art	Law for the Layman

SEMINARS AND CONFERENCES

Seminars and conferences can be organized upon request from special interest groups.

HIGH SCHOOL COMPLETION

Adults who have not graduated from high school may earn an adult high school diploma through the High School Completion courses offered by the College. The adult high school diploma is an earned diploma granted by the local Board of Education in cooperation with the College.

An adult who has not met the requirements for high school graduation by having completed four units of English, one unit of mathematics, two units of general science and biology and one unit of American History, must enroll for at least one quarter in each subject in which there is a deficiency. At the completion of a quarter and upon recommendation of the teacher, a standardized test will be administered by the College.

If a satisfactory level of achievement is indicated by the test score the student will be credited with having completed the subject and will be given credit toward graduation. English and mathematics must be completed first. If no high school credits have been earned and standardized achievement test results indicate an educational performance level lower than Grade 8.9, the adult must enroll in basic education classes to acquire skills necessary to successfully pursue high school completion courses.

Upon completion of all requirements, the adult is recommended to the local Board of Education as eligible to receive the Adult High School diploma. The local Board of Education, according to previous agreement with Central Piedmont Community College, then issues the high school diploma.

ADULT EDUCATION CENTERS

Education courses for adults over 18 are offered at the following centers. Time and place may change. For up-to-date information, contact: Director, Adult Education —373-6698.

Bethlehem Center
2705 Baltimore Avenue

Double Oaks Service Center
1905 Earle Street

East Mecklenburg High School
6800 Monroe Road

Garinger High School
1100 Eastway Drive

Goodwill Industries
2001 Freedom Drive

Greenville Neighborhood Center
1330 Spring Street

Harding High School
2001 Alleghany Street

Huntersville Prison
Huntersville, N.C.

Independence High School
1967 Patriot Drive

Myers Park H.S.
2400 Colony Road

Nevins Center
3523 Nevins Road

North Mecklenburg High School
Statesville Road

South Mecklenburg High School
Park Road

West Charlotte High School
2219 Senior Drive

Occupational Extension Courses

Extension courses are offered for those who need short-term training, retraining, or upgrading in a vocational or professional area. The titles which follow are indicative of the types of courses that are frequently offered; however, any training, retraining, or upgrading course can be offered to meet an expressed community need.

SUPERVISORY DEVELOPMENT TRAINING

Supervisory Development Training Classes train persons interested in becoming supervisors and provide instruction for supervisors at various levels of management as preparation for advancement.

Following is a partial list of supervisory courses:

Human Relations
Effective Communications
Effective Writing
Effective Speaking
Work Measurement
Economics in Business & Industry
Art of Motivating People
Job Methods
Conference Leadership
The Supervisor in North Carolina
Job Analysis Training
Creative Thinking
Industrial Safety and Accident Prevention
Principles of Supervision

FIRE SERVICE TRAINING

The growing Piedmont area of North Carolina requires expansion of fire fighting units and upgrading of fire service personnel. The need for better trained personnel is met by the College through training provided in the latest techniques.

Fire service training is taken directly to the individual fireman. Training sessions are held in the local fire departments allowing the members to be trained as an organized group utilizing equipment they would ordinarily use in firefighting. The College also offers an associate degree in this area.

LAW ENFORCEMENT TRAINING

A growing need for better trained law enforcement officers is met by the College through opportunities for training. Basic Law Enforcement and special seminars are conducted several times a year in order to meet these needs. The College also offers an associate degree curriculum in Police Science.

MISCELLANEOUS TRAINING

Banking
Blueprint Reading
Health Related Training
Sewing
Upholstery
Insurance

Institutional Housekeeping
FCC Licensing
Salesmanship

APPRENTICESHIP AND LICENSURE TRAINING

Many people learn a trade by working on the job where they acquire skills by using tools of the trade. The College offers opportunities for these persons to acquire related instruction in the classroom at night. Several of the trade areas in which related instruction is available are:

Electricity
Sheet-Metal
Bricklaying (Beginning)
Hotel/Motel Management
Sewing & Alterations
Carpentry (Beginning)
Plumbing & Steamfitting
Small Engine Repair
Apartment Resident Manager

Contractual Programs

The College contracts with various local, state, and federal agencies to provide specific training for students selected and referred by the agency. For information, call 373-6864.

CETA COURSES

Under the provisions of the Comprehensive Employment Training Act (CETA) persons who are unemployed or under-employed are eligible for certain types of training. In cooperation with CETA prime sponsors and the Employment Security Commission of North Carolina, the college offers specialized course work as scheduled by these agencies.

NEW AND EXPANDING INDUSTRY TRAINING

The College offers specialized courses as needed to meet the demands of new and expanding industries in the area for workers requiring specific skills training. For information contact: Vice President, Continuing Education, 373-6717. No fee.



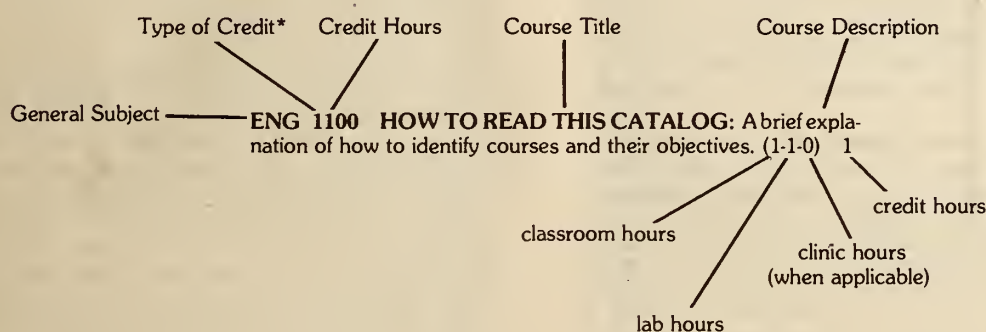
CPCC's classrooms extend into your own living room through a new program: I.O.U. (Instructional Options Unlimited) with T.V. courses, radio, telephone, and newspaper instruction.

Course Descriptions

This section contains brief descriptions of courses and what the student may expect to be able to do upon successful completion. Notice that all courses are not taught every quarter. For a listing of courses being taught each quarter see the CPCC Schedule which is printed and delivered in Mecklenburg County by the *Charlotte Observer* the last Sunday in February, May, August, and November.

The 3-letter/4-digit prefix before each course title helps identify specific courses. The 3-letters are usually an abbreviation of the teaching department, such as DFT, which proceeds all drafting courses. Listings are alphabetical by these 3-letter designations.

The 4 numbers can also help. Digit #1 indicates the type of credit of that program as explained in the example below. Digit #2 indicates the number of credit hours awarded upon successful completion. Digit #3 and 4 have no significance for the student.



For a suggested sequence of study within a program, see the **PROGRAMS OF INSTRUCTION** section toward the front of this catalog.

*Further explanation of Type of Credit:

- 1 or 2 Associate in Arts, Associate in Fine Arts degree courses (two year studies which are transferrable to four-year colleges).
- 3 or 4 Associate in Applied Science degree courses (two year studies which prepare for job entry).
- 5 Diploma (one year) or certificate (less than one year) courses which prepare for job entry.
- 6 Adult Basic Education, High School Completion, General Equivalence Diploma.
- 7 Occupational Extension/Continuing Education
- 9 Developmental Studies in English, math, science, history and chemistry.

Accounting

ACC 1604 Principles of Accounting I: In this study of basic accounting principles and procedures, the student will work through the accounting cycle for both service and merchandising enterprises. The student will also study specialized areas, such as notes, uncollectible accounts, inventories, plant assets, petty cash, bank reconciliation, and the voucher system. (5-2) 6

ACC 1605 Principles of Accounting II: In this continuing study of basic accounting principles and procedures, the student will cover partnerships, corporations, manufacturing concerns, departmental, and branch operations. The student will prepare the statement of changes in financial position and consolidated financial statements. Prerequisite: ACC 1604. (5-2) 6

ACC 2626 Intermediate Accounting I: In addition to reviewing the accounting cycle, the student will study the following topics; development of accounting standards; theory underlying financial accounting; preparation of financial statements; price level and current value accounting; accounting changes and errors; income tax allocation; monetary assets; inventory costing and valuation; liabilities and pensions. Prerequisite: ACC 1605.(5-2) 6

ACC 2627 Intermediate Accounting II: In this continuing study of intermediate accounting, the student will study various topics including leases, plant assets, intangible assets, stockholders' equity, investments in stocks and bonds, the statement of changes in financial position, and financial statement analysis. Prerequisite: ACC 2626. (5-2) 6

ACC 3304 Managerial Accounting: The student will learn to use accounting data for planning and control. The student will be acquainted with the stewardship responsibilities of management, the directing and problem-solving functions of accounting in relation to current planning and control, and the evaluation of performance. special decisions and long-range planning will be emphasized. Stress will be on analysis rather than recordkeeping. Prerequisite: ACC 1604, ACC 1605 or consent of department head. (3-0) 3

ACC 3404 Governmental Accounting: The student will learn how to set up a general ledger for a governmental unit. The student will also learn how to set up a revenue ledger, budgetary ledger, and fixed assets ledger and to make the necessary journal entries and postings for operations, adjustments, and closings of the various funds including General, Special, Debt, Service, Assessment, Trust, Agency, Intragovernmental Service, Capital Projects and Enterprise Funds. Prerequisite: ACC 1605. (3-2) 4

ACC 3434 Hotel/Restaurant Accounting: The students will demonstrate their ability to apply generally accepted accounting principles to the hospitality industry. Problems will be studied and solved in the following areas: uniform system of accounts for hotels; basic control tenets; food, beverage and labor accounting principles and controls; specialized journals and ledgers; financial statements; voucher systems; budget planning; and credit systems. Prerequisite: ACC 1604. (3-2) 4

ACC 3500 Small Business Accounting: Upon satisfactory completion of this course, the student should be able to describe the different types of business enterprise; describe the basic accounting cycle; demonstrate an understanding of financial analysis by calculating cash flow, working capital, current ratio, return on investment, earnings per share, inventory turnovers, etc.; establish, control and reconcile a bank account; calculate payrolls; complete required governmental reports such as quarterly returns; describe inventory control and methods of inventory; calculate asset depreciation; identify license requirements; and describe outside professional help available and when it should be used. (5-0) 5

ACC 3600 General Accounting: After successful completion of this course, the student should be able to analyze, journalize, and post business transactions for service and merchandising organizations and complete the end-of-period financial statements. In addition to this basic study of the accounting cycle, the student will study other areas such as payrolls, bank reconciliations and petty cash funds. (5-2) 6

ACC 4338 Accounting Problems: The student will study APB opinions, research studies and FASB pronouncements while solving a wide variety of accounting problems adapted from recent CPA examinations. Worksheet techniques leading to efficient,

accurate solutions will be developed.

(3-0) 3

ACC 4364 Budget and Recordkeeping: When this course is completed, the student should be able to use historical accounting records to make future revenues and expenses; prepare budgets and use them for control purposes; apply budget procedures for departmental evaluation; prepare management reports and recommendations based on the budget; and analyze variances between budgeted and actual figures to determine responsibility for control. Prerequisite: ACC 1604. (3-0) 3

ACC 4395 Individual Study — Accounting: This course provides students an opportunity to develop a special program to study to fill a need not met by other courses. Enrollment provides access to the resources and facilities of the entire institution. The student works under the supervision of a sponsoring faculty member. Approval of the sponsor and department head is required. (3-0) 3

ACC 4404 Auditing: The student will study the theories and practices of auditing and also the generally accepted auditing standards and rules of professional conduct. The student will solve numerous problems illustrating specific techniques of auditing various general ledger accounts. These problems will develop internal auditing concepts and procedures as well as the public accounting viewpoint. Current trends in financial statement preparation will be reviewed. Prerequisite: ACC 2627. (3-2) 4

ACC 4425 Taxes-Business and Fiduciary: In this study of federal and state income tax laws and regulations, the student will demonstrate satisfactory competency in preparing business returns and fiduciary returns. Topics include income tax withholding; reporting business or professional income for individuals, partnerships, and corporations; researching and solving tax problems; and applying federal and state laws for gifts and estates. Prerequisite: ACC 1605. (3-2) 4

ACC 4434 Taxes — Individual: Students will study current federal and state income tax laws and demonstrate their ability in finding, interpreting, and applying the relevant laws in the preparation of individual income tax returns of moderate complexity. These returns will involve supporting schedules and forms necessary for reporting income, deductions and tax computations. The student will also demonstrate competency in solving problems in tax planning, minimizing taxes for the average taxpayer, and preparing declarations of estimated tax, extensions of time to file and amended tax returns. (3-2) 4

ACC 4444 Cost Accounting: In this study of manufacturing cost systems, the student will study a variety of problems illustrating the principles and procedures of job order and process costing operations. The use of standard costs and other data for management control is included. The student will calculate and apply estimated overhead rates using a variety of bases. Prerequisite: ACC 1605. (3-2) 4

ACC 4447 Advanced Accounting: The student will solve a wide variety of problems illustrating advanced applications of accounting principles and procedures. Topics include parent-subsidiary consolidations, partnerships, installment sales accounting, branch accounting, governmental accounting, and accounting for estates and trusts. Emphasis is placed on the development of worksheet techniques in problem solving. APB opinions and FASB pronouncements are related to the preceding topics. Prerequisite: ACC 2627. (3-2) 4

ACC 5610 Medical Accounting: Upon completion of this course, the student should be able to apply the following accounting procedures to the medical profession: record transactions in a combined cash journal and post to the general ledger; prepare a trial balance, income statement and balance sheet; maintain and prove a patients' ledger; establish and replenish a petty cash fund; open a checking account, prepare deposit tickets, write checks and reconcile a bank statement; and prepare a payroll record and journalize entries to record the payroll and the employer's tax expense. The student is required to demonstrate knowledge in the above areas by completing a practice set applicable to the medical profession. (5-2) 5

Advertising Design

ADV 1300 Photography for Advertising: This is a continuation of Photo Lab Processes I (Art 1385). Students will develop a portfolio of black-and-white photographs using their own 35mm camera and the view camera supplied by the instructor. Upon completion of this course, the student should be able to set up and operate the view camera for taking product photographs, as well as for correcting vertical and horizontal distortion. The student will be able to arrange a basic lighting set-up in the studio for photographing simple products. The student will be able to operate the process camera to produce high contrast negatives and halftones, as used in the advertising industry. Prerequisite: ART 1385 (1-4) 3

ADV 4204 Advertising Thesis: Upon completion of this course, the student should be able to: (1) identify immediate and long-range vocational objectives; (2) prepare a professional quality portfolio which will help the student to achieve these immediate objectives; and (3) present the portfolio to prospective employers in a confident and professional manner. Prerequisite: ADV 4305, VCO 4415 (0-4) 2

ADV 4214 Professional Practices and Procedures: Upon completion of this course, the student should be able to: (1) describe the various types of business formations concerned with advertising design. (2) outline the advantages and limitations of each. The student will also understand the importance of small business in the United States and its reasons for success and failure. Students will analyze small business operations such as buying, selling, pricing, record keeping, banking, etc. They will also understand legal responsibilities of ownership and operation of small businesses. Prerequisite: ADV 4305, VCO 4415 (3-0) 2

ADV 4300 Advertising Principles: Upon completion of this course, the student should be able to: (1) describe the relationship of social and economic conditions to today's advertising; (2) identify the advantages and limitations of major communications media; (3) describe the operation and organization of an advertising agency; (4) discuss the advertising spiral; and (5) plan a small multi-media advertising campaign. (3-0) 3

ADV 4304 Advertising Studio I: Upon completion of this course, the student should be able to: (1) product professional quality layouts in semi-comprehensive form for various visual communications such as newspapers and magazines; (2) design and layout multi-color line art for assignments such as book jackets and multi-page folders; (3) design and prepare a dummy for multi-colored flexible packages and/or folding carton packages; (4) prepare camera-ready art, including type and color separation amberlith overlays for the above assignments; and (5) properly use studio equipment, such as photo-stat machines, photo-typewriter and PMT processor. Prerequisite: ART 1306, ART 1326 (2-2) 3

ADV 4305 Advertising Studio II: Upon completion of this course, the student should be able to: (1) identify the different types of half-tone art; (2) design and layout various print advertisements which use half-tone art; (3) prepare semi-comps and camera-ready art for various types of consumer and business related advertisements, such as Trade and Industrial Ads; (4) plan and produce a dummy and camera-ready art for multipage publications, such as booklets and brochures; (5) design and prepare for reproduction direct-mail advertisements and/or announcements for consumer or business use. Prerequisite: ADV 4304 (2-2) 3

ADV 4306 Advertising Studio III: Upon completion of this course the student should be able to: (1) complete layouts, comprehensive and camera-ready art for full color reproduction; (2) describe the four-color reproduction process; (3) plant and execute and advertising campaign using a variety of communications media including newspaper ads, direct mail, magazines, television, point-of purchase and outdoor advertising; and (4) prepare a cost study for the above campaign. Prerequisite: ADV 4305. (2-2) 3

Air Conditioning, Heating and Refrigeration

AHR 4304 Introduction to Psychrometrics: Upon completion of this course, the student should be able to: (1) describe the basic properties of air; (2) describe the changes in volume and pressure with temperature; (3) describe dew point temperature; (4) describe humidity ratio, sensible heat, latent heat and their relationship with each other; and (5) solve simple problems using the psychrometric chart. Prerequisite: AHR 5411. (3-0) 3

AHR 4325 Air Conditioning, Heating and Refrigeration Drawing & Sketching: Upon completion of this course, the student should be able to: (1) identify the symbols used on heating and air conditioning plans; (2) demonstrate the ability to freehand sketch isometric and orthographic projection sketches of equipment; (3) design and draw a simple plan for a heating and air conditioning system; (4) properly dimension and make proper notations on a design plan; and (5) organize the required information needed for a complete plan of a heating and air conditioning design. (1-4) 3

AHR 4361 Residential Air Distribution and Balance: Upon completion of this course, the student should be able to: (1) demonstrate a comprehensive knowledge and understanding of air and its behavior in a duct or residential air distribution system; (2) design any of the four basic duct systems used in residences; (3) design a return system for residences; (4) estimate blower capacity; (5) estimate and measure friction loss; (6) correctly size an air distribution system for a residence. Prerequisite* (2-2) 3

AHR 4372 Hydronic Distribution Systems Design: Upon completion of this course, the student should be able to: (1) select boiler and other components for a complete system utilizing charts, tables and catalog information; (2) design commonly used hydronic systems and do pipe sizing by accepted methods; (3) determine water temperatures and quantities to meet calculated load conditions. Prerequisite* (3-0) 3

AHR 4373 Hydronic Systems Balance: Upon completion of this course, the student should be able to: (1) use proper instruments to test, adjust and balance a system; (2) analyze the static and dynamic pressures and pumping power requirements for both open and closed systems; (3) analyze parallel and series application of pumps; (4) analyze zone control methods and related equipment; (5) use pump and system curves to analyze system performance; (6) choose the best design for a specific application; (7) measure water temperature at various terminal units to determine BTU output; (8) construct a system curve based on measured water flow; (9) use pump curves to estimate flow rate and head; (10) measure water flow, temperature and efficiency of a cooling tower application; (11) test, balance and adjust tower for optimum performance. Prerequisite* (2-2) 3

AHR 4382 Air Conditioning Estimates and Contracts: Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of various forms used in estimating; (2) prepare an annual monthly cost budget for a contracting business; (3) formulate a Profit and Loss Statement; (4) compose a balance sheet; (5) given the cost of a job, add a percentage for overhead and profit, accurately estimate the proper selling price of said job; (6) given the total selling price of a job, the percentage of overhead and profit, accurately estimate the cost of material, labor, sub contracts, etc.; (7) choose the "break-even" point of a stated dollar volume of business when overhead is known; (8) evaluate several contracts and compare a contract to suit the individual needs of the student; (9) prepare the estimate, proposal and contract in a manner to be compared with actual costs and estimated overhead and profit. (3-0) 3

AHR 4451 Commercial Refrigeration Systems Design: Upon completion of this course, the student should be able to: (1) estimate the cooling load requirements for any known commercial refrigeration application; (2) select proper equipment and controls to meet load requirements; (3) design and size a refrigeration piping system including piping accessories and controls. Prerequisite* (4-0) 4

Course Descriptions

AHR 4452 Residential Air Conditioning Systems Design: Upon completion of this course, the student should be able to: (1) estimate the heating and/or cooling needs of a residence; (2) select the proper size of heating and/or cooling equipment required to meet the estimated needs; (3) determine air quantities of a room by room basis; (4) select room air outlets and returns and size duct work for simple systems. Prerequisite* (3-2) 4

AHR 4453 Commercial Air Conditioning Systems Design: Upon completion of this course, the student should be able to: (1) estimate the heating and/or cooling requirements of a commercial-type structure; (2) choose the proper size of heating and/or cooling equipment to meet these requirements; (3) determine air mixture conditions entering and leaving cooling coil; (4) use psychrometric chart to determine conditions of mixed air flow, and determine sensible and latent heat loads of air quantities; (5) determine air quantities and mixture conditions based upon calculated loads. Prerequisite* (3-2) 4

AHR 4462 Commercial Air Distribution and Balance: Upon completion of this course, the student should be able to: (1) demonstrate a comprehensive knowledge and understanding of air and its behavior in a commercial air distribution system; (2) demonstrate a basic knowledge of the types and classes of fans and applications; (3) use fan charts to select fans and analyze air systems; (4) demonstrate a knowledge of basic air distribution systems including duct sizing methods and proper selection of air outlets and returns. Prerequisite* (3-2) 4

AHR 4463 Control Systems: Upon completion of this course, the student should be able to: (1) interpret symbols on a control schematic diagram; (2) compose a control schematic diagram; (3) compare various control systems and select the one best suited for a specific application; (4) prepare a control diagram for a refrigeration system; (5) design a system of controls for an air conditioning system; (6) properly assemble the components so as to have an operating control system; (7) test and analyze control circuits; (8) adjust various controls in a system. Prerequisite* (3-2) 4

AHR 4490 Solar Heating and Cooling Systems I: Upon completion of this course, the student should be able to: (1) describe the basic causes of our present energy scarcity and the advantages and disadvantages of solar energy; (2) compare the latitudinal and seasonal variations of solar radiation and be able to use solar insolation tables; (3) indicate the best applications for flat plate and concentrating collectors; (4) use efficiency charts for flat plate collectors; (5) draw piping and duct schematics for typical systems, and determine flow rates and storage requirements; (6) describe the types of solar cooling systems. (4-0) 4

AHR 4491 Solar Heating and Cooling Systems II: Upon completion of this course, the student should be able to: (1) estimate the energy harvest for a collector using solar energy tables and efficiency information; (2) estimate space heating requirements using degree-day tables; (3) evaluate ways by which solar energy collected can be increased by collector design and operating conditions; (4) recognize the types of control systems needed for different solar systems; (5) estimate the fraction of solar energy supplied by the use of the f-chart; (6) discuss the non-thermal application of solar energy such as photo voltaics and wind power. Prerequisite: AHR 4490, AHR 4372, AHR 4452, AHR 4453. (4-0) 4

AHR 4471 Installation and Service Problems: Upon completion of this course, the student should be able to (1) use a variety of test instruments; (2) estimate capacity requirements of various components and equipment; (3) select proper location for various components; (4) examine various systems and solve service problems on same; (5) using a variety of shop and field equipment, test and repair lab units; (6) evaluate insulation requirements; (7) compare piping techniques; (8) select system accessories. Prerequisite* (2-6) 4

AHR 5200 Solar Domestic Hot Water Installation: Upon completion of this course the student should be able to: (1) define the terms used in the solar energy industry; (2) make solar component selection; (3) assemble the piping system; (4) install a solar domestic hot water system with proper angles and orientation. (1-3) 2

AHR 5201 Home Maintenance — Residential Air Conditioning: Upon completion of this course the student should be able to: (1) identify the various types of residential air conditioning units; (2) be able to change filters, replace belts, oil motors and drives; understand functions performed by thermostats and be able to set room thermostats for proper temperature control; (3) balance air supply to rooms; (4) properly insulate ductwork; (5) clean around condensing unit for proper flow; (6) describe the basic refrigeration cycle; (7) clean air conditioning coils and fans; and (8) describe malfunctions of air conditioning system to a service man. (1-3) 2

AHR 5204 Wiring Diagrams and Troubleshooting for A/C Systems: Upon completion of this course, the student should be able to: (1) identify the more commonly used control components, their symbols, and describe their function in the control system; (2) read wiring diagrams; and (3) trouble-shoot and replace controls in a control system. Prerequisite: AHR 5314. (1-3) 2

AHR 5301 Introduction To Automatic Controls: Upon completion of this course, the student should be able to: (1) demonstrate a workable knowledge of electrical terms and symbols; (2) have a working knowledge of Ohm's Law and Kirchhoff's Law; (3) draw series and parallel circuits; (4) understand the Wheatstone bridge; (5) understand magnetism; (6) describe fundamentals for current generation; and (7) understand the function of simple electrical controls as they are used in air conditioning and refrigeration systems. (3-0) 3

AHR 5313 Refrigeration Service Principles: Upon completion of this course, the student should be able to: (1) properly use the gauge manifold; (2) analyze several operating refrigeration systems and measure the degree of efficiency of each; (3) inspect, remove and re-install various sub assemblies of the system; (4) examine all components; (5) distinguish and replace faulty system components; (6) test entire system and place system into operation. Co-requisite: AHR 5411, AHR 5412, AHR 5301, or one year field experience instead of AHR 5412. (2-3) 3

AHR 5314 Automatic Controls: Upon completion of this course, the student should be able to: (1) have an understanding of and be able to use electrical measuring instruments; (2) identify and describe the function and operation of basic control devices; (3) install and wire these basic controls into a control circuit; (4) select the proper type and size of wire for each application; and (5) read basic pictorial wiring diagrams. Prerequisite: AHR 5301. (2-3) 3

AHR 5321 Commercial Refrigeration Installation: Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of the various types and applications of commercial refrigeration installations; (2) compare various defrost methods; (3) select correct safety and operating controls for a given application; (4) construct the refrigerant piping system; (5) charge system with proper amount of refrigerant and test for leaks; (6) start up system. Co-requisite: AHR 5324. Prerequisite: AHR 5313 or one year field experience, AHR 5411. (2-3) 3

AHR 5322 Commercial Refrigeration Service: Upon completion of this course the student should be able to: (1) compare various commercial refrigeration systems; (2) use necessary tools and apply service techniques taught in this course; (3) test for and repair refrigerant leaks; (4) analyze system for malfunction; (5) choose and install correct replacement component(s); (6) test for proper operation of entire system; (7) employ special equipment to dehydrate and evacuate system; (8) install correct refrigerant charge; (9) start system; (10) evaluate system operation. Prerequisite: AHR 5321. (2-3) 3

AHR 5323 Oil Burners: Upon completion of this course, the student should be able to: (1) differentiate between the various types of oil burners; (2) test and evaluate the high pressure type burners; (3) completely assemble a high pressure oil burner; (4) interpret an electrical diagram for an oil burner assembly; (5) prepare the oil burner for testing; (6) measure combustion efficiency; (7) set up burner for maximum efficiency with minimum air pollution. (2-3) 3

AHR 5324 Air Conditioning, Heating & Refrigeration Blueprint Reading: Upon completion of this course the student should be able to: (1) interpret a simple residential blueprint; (2) use plans, schedules and tables; (3) make free-hand sketches of objects; (4) demonstrate a knowledge of comprehension of notes, lines, projections and dimensioning procedures. (3-0) 3

AHR 5333 Liquid Heat — One And Two Pipe Systems: Upon completion of this course the student should be able to: (1) make a diagram of the various systems; (2) select all components for the various systems; (3) analyze and test a system; (4) describe the various valves and their usage. (2-3) 3

AHR 5341 Gas Heat: Upon completion of this course the student should be able to: (1) differentiate between the various types of gas furnaces; (2) plan the installation of a given gas furnace; (3) understand operating and safety controls; (4) properly design the gas piping system; (5) test vent and test gas piping for leaks and proper operation; (6) dismantle entire furnace, evaluate the condition of same, repair or replace faulty material(s) and reassemble the complete unit and all components; (7) start-up the completed installation; (8) demonstrate comprehension of safety codes; (9) measure combustion efficiency. Prerequisite: AHR 5314. (2-3) 3

AHR 5342 Electric Heat: Upon completion of this course the student should be able to: (1) calculate the heat loss in wattage on a room to room basis for a structure; (2) select the most appropriate type of system for a particular application; (3) choose the correct controls for the system selected; (4) design a simple system; (5) assemble all components and install same; (6) inspect and test systems and components for safe and proper operation; (7) solve problems with system components; (8) estimate approximate annual cost of operation; (9) measure efficiency, voltage and wattage or current draw of either system. Prerequisite: AHR 5314. (2-3) 3

AHR 5394 Mechanical Codes: Upon completion of this course the student should be able to: (1) demonstrate a comprehensive understanding of the North Carolina Building Code relating to air conditioning in residences and commercial buildings; (2) compare the systematic methods of designing and sizing an air conditioning system; (3) evaluate the systematic methods of designing, sizing and installing the refrigerant piping and condensate drain(s); (4) employ the applicable standard to the installation of all air conditioning systems and equipment. Prerequisite* (3-0) 3

AHR 5401 Basic Calculations For A/C, Heating And Refrigeration Mechanics: Upon completion of this course, the student should be able to: (1) apply the principles of addition, subtraction, multiplication and division to problems indigenous to the heating and air-conditioning field; (2) calculate direct and indirect ratio and proportion; (3) accurately read a ruler; (4) accurately read a volt-ohm-meter and ammeter scale; (5) manipulate fractional and decimal numbers; (6) use simple equations to solve arithmetic formulas in the field; (7) use a ductulator and Ohm's Law table; (8) perform calculations for area and volume; (9) understand scale measurement and angular measure; (10) discuss measurement using the metric system as well as the English system. (4-0) 4

AHR 5411 Refrigeration Theory: Upon completion of this course the student should be able to: (1) analyze the elements of thermodynamics; (2) evaluate pressure-temperature relationships; (3) compare Boyle's Law and Charles' Law; (4) design a simple refrigeration cycle. (4-0) 4

AHR 5412 Refrigeration Shop Practices: Upon completion of this course the student should be able to: (1) select the correct tubing for refrigerant use; (2) properly bend tubing; (3) flare and swage tubing; (4) use various solders and techniques in making a series of soldered connections; (5) construct a small piping system; (6) use a gauge manifold; (7) examine tubing or piping system for leaks utilizing at least three leak detection methods. Co-requisite: AHR 5411 (2-6) 4

AHR 5431 Air Conditioning-Residential/Commercial: Upon completion of this course the student should be able to: (1) demonstrate a knowledge of the terminology used in the trade; (2) diagram a complete refrigeration cycle, properly identifying all components; (3) choose all necessary major components; (4) differentiate between water- and air-cooled equipment; (5) design a simple residential air conditioning system and select all components; (6) assemble the system; (7) employ safety measures; (8) compare remote and self-contained systems; (9) compare various air moving equipment; (10) demonstrate full comprehension of the various commercial air conditioning systems; (11) inspect, test and analyze a commercial system; (12) solve various service problems on systems. Prerequisite: AHR 5411, AHR 5314, AHR 5313 or one year field experience instead of AHR 5313. (3-3) 4

AHR 5443 All Weather Systems — Conventional: Upon completion of this course the student should be able to: (1) demonstrate a thorough comprehension of the application of both heating and cooling into one single system; (2) compare the various combinations of oil-electric, gas-electric, all electric and other available combination systems; (3) select the proper safety and operating controls for either type system; (4) assemble all equipment and components and construct an all weather system of conventional type; (5) inspect and test systems; (6) solve service problems; (7) revise improperly installed systems; (8) measure and evaluate the overall performance of an all weather conventional type system. Prerequisite: AHR 5411, AHR 5204. (3-3) 4

AHR 5444 All Weather Systems — Heat Pumps: Upon completion of this course the student should be able to: (1) construct a diagram of refrigerant cycle; (2) select all components necessary to construct a heat pump cycle and compare an electrical diagram employing all necessary operating and safety controls; (3) practice service procedures on lab models; (4) prepare a list of advantages and disadvantages of using a heat pump. Prerequisite: AHR 5204. (2-6) 4

AHR 5495 Duct Design II — Round Duct: Upon completion of this course the student should be able to: (1) measure, design and construct no less than ten different sizes of round metal duct; (2) construct round duct; (3) select and construct transition fittings; (4) design and construct 45 and 90 degree elbows. Prerequisite: AHR 5594. (3-3) 4

AHR 5594 Duct Design I — Rectangular Duct: Upon completion of this course the student should be able to: (1) identify correctly and safely all of the hand tools normally found in a sheet metal shop; (2) identify correctly and safely operate all of the metal working machinery usually found in the average sheet metal shop; (3) measure, diagram, cut out and construct nine different types of "seams" or "lock seams" and different types of "cleats" essential to the fabrication and installation of metal ductwork; (4) design and construct different rectangular and/or square sections of duct and/or fittings, using various gauges of sheet metal. Prerequisite: AHR 4325 and AHR 5324. (3-6) 5

*Prerequisite Completion of AHR Diploma Program at CPCC. Considerable experience in the environmental systems industry may be substituted with permission of the program director.

Anthropology

ANT 1502 General Anthropology: Upon completion of this course, the student should be able to demonstrate a knowledge of personality structure, stratification systems, marriage-family-kinship systems, religion-magic-witchcraft, economic systems, political organization, law and social control, socio-cultural change, and linguistics in preliterate societies. In addition, the student will demonstrate a knowledge of human paleontology, archaeology, primatology, human variation, and cultural history.

Architectural Technology

ARC 3200 Introduction to Architecture: Upon course completion the student should be able to: (1) identify the role of the architect and the technician in our society and architectural profession; (2) discuss the development of buildings; (3) list the ways in which architectural design has responded to changes in society which are reflected in the major building types; (4) evaluate the basic building types and their problems. (2-0) 2

ARC 3210 Design Your House Plans: Upon completion of this course students should be able to: (1) design their own home plans or alter existing plans; (2) draw plans and elevations with proper dimensioning; (3) select effective house orientation for sun, wind, view and privacy, as well as the topography of the site; (4) choose the most appropriate basic house structure and determine involved traffic patterns; (5) plan the individual rooms, stairs, halls and core units (kitchen, bath, and utility rooms); (6) design the exterior of the house including shape and proper material. (1-2) 2

ARC 3301 Build Your Home: Upon course completion the student should be able to: (1) evaluate information and procedures required in all facets of building or remodeling a home, including areas of building codes, zoning laws, and site selection; (2) perform basic interior and exterior design programs, including selection and use of building materials; (3) recognize the various alternatives in heating and air conditioning, plumbing and electrical systems; (4) review plans, specifications and other contract documents required in the relationship with contractors and financial institutions. (3-0) 3

ARC 3302 Home Construction Methods and Details: Upon completion of this course the student should be able to: (1) identify and evaluate information and procedures pertaining to house construction such as lot surveys, drainage, excavation and foundation construction, foundation walls, floors, wall and roof framing; (2) appraise pre-fabricated walls and roof trusses, various types of duct work, heating and plumbing rough-in-work, electrical wiring; (4) compare and select exterior wall coverings, roofing materials, interior wall finishes, kitchen and bathroom equipment, floor coverings, plumbing — lighting — electrical fixtures and devices, hardware; (5) evaluate the actual application of the construction materials and techniques through site visitation. (3-0) 3

ARC 3303 Interior Design Drafting I: Upon successful completion of this course the student should be able to: (1) apply basic light construction terminology to drawings; (2) draw residential and industrial plans and details; (3) recognize standard building materials and their sizes; (4) compare and select various types of windows and doors; (5) use inking pens; (6) discuss contents of residential and industrial building codes; (7) use reference material and graphic standards. Prerequisite: ARC 3334. (1-6) 3

ARC 3304 Interior Design Drafting II: Upon successful completion of this course the student should be able to: (1) layout standard building modular sizes; (2) utilize information determined from residential and commercial building blueprints; (3) interpret and write basic specifications; (4) draw an electrical plan with a fixture schedule; (5) identify various types of heating and cooling systems and draw a plan using the mechanical equipment symbols; (6) draw working plans and details for cabinet makers and mechanics. Prerequisite: ARC 3303. (1-6) 3

ARC 3312 Residential Working Drawings: Upon completion of this course the student should be able to: (1) apply basic residential construction terminology to drawings, (2) draw residential working drawings including plans, elevations, details, schedules, lighting, and site plans, and (3) be familiar with basic code requirements. Prerequisite: ARC 3334. (1-6) 3

ARC 3334 Architectural Drafting I: Basic & Residential: Upon completion of this course the student should be able to: (1) use drafting equipment; (2) develop skills in lettering and drawing; (3) use architectural and engineering scales; (4) do freehand sketching; (5) draw basic residential plans, elevations, and details. (1-6) 3

ARC 3335 Architectural Drafting II: Site Planning and Commercial: Upon completion of this course the student should be able to: (1) become familiar with siting buildings from the standpoint of orientation, utilities, cut and fill, parking and drives; (2) understand the effect of zoning and other code requirements; (3) have an introductory understanding of commercial working drawings, including sheet sequence and basic commercial construction terminology; and (4) prepare preliminary commercial drawings — floor plans, elevations and sections. Prerequisite: ARC 3334. (1-6) 3

ARC 3336 Architectural Drafting III: Commercial A: Upon completion of this course the student should be able to: (1) become familiar with fundamental commercial construction and building materials; (2) organize working drawing sheet sequence to conform to accepted practice; (3) develop and draw commercial working drawings. Prerequisite: ARC 3335. (1-6) 3

ARC 4200 Architectural Blueprint Reading and Specifications: Upon completion of this course the student should be able to: (1) visualize building floor plans, elevations, sections and details in relation to the completed three-dimensional structure; (2) recognize drawing conventions, standard materials and equipment symbols on architectural, structural, mechanical and electrical plans; (3) apply information obtained from residential working drawing floor plans, elevations, sections and details, as well as heating, air conditioning, plumbing and electrical plans; (4) utilize information determined from commercial building blueprints pertaining to masonry, reinforced concrete, structural steel and heavy timber construction; (5) discuss contents of specifications and how they relate to drawing in the design and construction of buildings. (1-3) 2

ARC 4300 Architectural-Mechanical Equipment: Upon completion of this course the student should be able to: (1) identify the types of pumping distribution, and hot water supply systems; (2) size piping layout for a fresh water and a sanitary plumbing system; (3) identify types of electrical wiring and service equipment; (4) associate the types of heating and cooling systems for buildings; (5) identify the fundamentals of lighting and associated equipment; and (6) describe vertical transportation equipment, such as elevators. Prerequisite: ARC 3335, ARC 4200 (2-3) 3

ARC 4302 Architectural Model Construction: Upon course completion the student should be able to: (1) use basic tools and equipment necessary to build models; (2) build various types of contours and landscape models; (3) construct simple study models for architectural, engineering or interior design study; (4) represent the basic building materials at various scales; (5) construct either architectural, structural or interior models from blueprints. Prerequisite: ARC 3334 or ability to read blueprints. (1-6) 3

ARC 4310 Energy Efficient and Solar Home Design: Upon completion of this course the student should be able to: (1) identify the different systems of passive solar installations; (2) understand the sun's effect on the earth; (3) compute heat loss and gain; (4) utilize the basic tools of passive design; (5) become acquainted with actual passive applications; (6) gain a basic understanding of the performance of various building materials and insulation. (3-0) 3

ARC 4337 Architectural Drafting IV: Commercial B: Upon completion of this course the student should be able to: (1) develop from site plans, floor plans, building sections, schedules, stairs, elevators and details; (2) study in depth materials and construction; (3) incorporate manufacturer's building products into drawings; and (4) coordinate drawings and specifications. Prerequisite: ARC 3336 (1-6) 3

ARC 4338 Architectural Drafting V: Mechanical, Electrical and Plumbing: Upon completion of this course the student should be able to: (1) draw mechanical duct layouts, (2) draw lighting, electrical plans, and schedules; (3) draw plumbing plans, schedules, and riser diagrams; and (4) identify and utilize appropriate symbols. Prerequisite: ARC 3336, ARC 4300 or instructor's permission. (1-6) 3

ARC 4339 Architectural Drafting VI: Structural: Upon completion of this course the student should be able to: (1) design and draw structural steel framing for a simple commercial or industrial building; (2) design and shop detail the component parts of steel structures including bolted and welded connections; (3) analyze continuous beams; (4) design composite construction floor systems with the use of the AISC Manual; and (5) detail the component parts of reinforced concrete structures. Prerequisite: CIV 4427, ARC 3335; Co-requisite: CIV 4434 (1-6) 3

ARC 4340 Architectural Drafting VII: Working Drawings: Upon completion of this course the student should be able to: (1) perform as a team member in the preparation of schematic design drawings to meet the building requirements of a hypothetical client; (2) function as a member of the production team in the preparation and presentation of design development drawings; (3) apply the fundamentals of ordinances and regulations pertaining to zoning, traffic and facilities for the physically handicapped; (4) produce, as a member of the team, a set of architectural working drawings, consisting of site plan, floor plans, reflected ceiling plans, elevations, wall sections and details; (5) apply office practice methods pertaining to project production. Prerequisite: ARC 4300, ARC 4337, ARC 4339. (1-6) 3

ARC 4345 Architectural Presentation Drawing: Upon completion of this course the student should be able to: (1) perform basic and advanced architectural presentation techniques, including the use of shading, shadows, and the use of perspective charts; (2) apply a variety of mediums — including pencil, ink, and color; (3) draw vegetation, people, and transportation vehicles; (4) produce a complete architectural rendering. Prerequisite: ARC 3335 or equivalent. (1-6) 3

ARC 4345 Architectural Presentation Drawing I: Upon completion of this course the student should be able to: (1) perform basic architectural presentation techniques; (2) apply pencil techniques for representing shading and shadowing, contours, foliage, architectural materials, figures, etc.; (3) draw one point interior and exterior perspectives; (4) utilize rendering techniques for floor plans, exterior elevations, site plans, and building sections. Prerequisite: ARC 3335 or equivalent. (1-6) 3

ARC 494 Independent Study: This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Program Director is required prior to enrollment. (1-5 credits)

Art

ART 1200 Fiber Dyes: In this course, the student will explore the use of natural and synthetic dye processes for the handweaver. Direct dyeing and top-dyeing with a variety of dye types will be explored along with color theory.* (0-4) 2

ART 1300 Introduction To Art I: Upon completion of this course, the student should be able to demonstrate a recognition and understanding of the basic elements and principles of design as they apply to the visual arts. Through written or oral means the student will demonstrate an understanding of appropriate terms and the skills required in the various art media, and a knowledge of how the visual arts affect daily life and commerce. (3-0) 3

ART 1301 Introduction To Art II: Upon completion of this course, the student should demonstrate an ability to draw parallels between art of the past and the present. Students should demonstrate an understanding through written or oral means of broad social, political, psychological and economic motivations for creating art. (3-0) 3

ART 1302 Art Education: Upon completion of this course, the student should be able to: (1) discuss and compare some of the major trends in the history, psychology, philosophy, and methods of art education; (2) plan, organize, conduct, and evaluate a classroom art experience.* (2-2) 3

ART 1303 Printmaking II: Upon completion of this course, the student should be able to select woods, execute appropriate designs for woodcut, handle woodcut tools properly, and produce editions of prints using various woodcut techniques.* (0-6) 3

ART 1304 General Drawing I: Upon completion of this course, the student should be able to identify problems and possible solutions of representing visual experience on the two-dimensional surface. The student will have explored a variety of materials and techniques with an emphasis upon utilizing these materials and techniques as a means of personal expression.* (0-6) 3

ART 1305 General Drawing II: Upon completion of this course, the student will have been introduced to the study of perspective and other systemized methods of rendering the illusion of form and space. The student will be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of materials and techniques in drawing. Prerequisite: ART 1304 or Divisional consent.* (0-6) 3

ART 1306 General Drawing III: In this course, students will work toward the use of drawing as a means of personal expression and will concentrate on the development of direction and method in their work. Prerequisite: ART 1305 or Divisional consent.* (0-6) 3

ART 1310 History of Art I: The student will survey major visual arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. Prehistoric through Early Gothic. (3-0) 3

ART 1311 History of Art II: The student will survey major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. The Late Gothic through Renaissance to Baroque. (3-0) 3

ART 1312 History of Art III: The student will survey the major arts and the influence of the historical past on the concepts and form of contemporary creative endeavor. Neoclassicism, Romanticism, and special emphasis on the Twentieth Century. (3-0) 3

ART 1314 Basic Woodworking: Upon completion the student should know the characteristics of a variety of woods and will be able to use powered and hand tools properly in the processes of shaping, joining, and finishing wood.* (0-6) 3

ART 1315 Intermediate Woodworking: Using and improving the knowledge and skills acquired in basic woodworking, the student will produce finished woodworking projects. Prerequisite: ART 1314 or Divisional consent.* (0-6) 3

ART 1316 Advanced Woodworking: Continuing to expand knowledge and skills from basic and intermediate woodworking, the student will design and produce original projects in wood. Prerequisite: ART 1315 or Divisional consent.* (0-6) 3

ART 1317 Furniture Restoration I: After completing this course, the student should be able to identify the presence of shellac, lacquer, oil and varnish finishes on furniture and will know the process for removing old wood finishes, applying oil stains, bleaching wood, proper sanding methods, and applying new finishes.* (0-6) 3

ART 1318 Furniture Restoration II: The student will continue to improve skills in applying new finishes, sanding techniques, and waxing furniture. In addition, the student will learn how to operate woodworking tools to perform minor repairs on furniture. The student will also learn how to distinguish between oil stains, varnish stains, sealer stains, spirit stains, and water stains, when each should be used and how to apply them. Prerequisite: ART 1317 or Divisional consent.* (0-6) 3

ART 1319 Furniture Restoration III: The student will further craftsmanship in removing old finishes and applying new ones, and will demonstrate the ability to perform major repairs on furniture including chair caning, repairing inlay, repairing veneer and mending broken wood. Prerequisite ART 1318 or consent.* (0-6) 3

Course Descriptions

ART 1321 Printmaking I: Students will demonstrate an understanding of silk screening as a fine art by designing and producing editions of prints, which include the use of various techniques such as tusche and glue, crayon and glue, and paper or film stencils.* (0-6) 3

ART 1322 Crafts: Upon completion of this course, the student should be able to: (1) identify and describe major textile craft forms; (2) design, construct, and exhibit textile craft projects. Crafts will include stitchery, macrame, hand-weaving, tie-dyeing and batik.* (0-6) 3

ART 1324 Design I: Upon completion of this course the student should be able to identify and use the principles and elements of design as they relate to the two-dimensional surface. Flat pattern development, pictorial composition, depiction of spatial illusion, and value analysis will have been studied.* (0-6) 3

ART 1325 Design II: The student will continue the analysis and implementation of the principles and elements of design with a strong emphasis upon color theory. Prerequisite: ART 1324 or Divisional consent.* (0-6) 3

ART 1326 Design III: The student will continue the study of principles of design and will employ these principles for works in both two and three dimensions. Emphasis will be upon personal solutions to design problems. Prerequisite: ART 1325 or Divisional consent.* (0-6) 3

ART 1327 Sculpture I: In this course the student will experiment with a variety of materials and methods of sculpture. Students will construct and use piece molds to reproduce their clay originals.* (0-6) 3

ART 1328 Sculpture II: The student will continue to experiment with a variety of materials and methods of sculpture. There will be an emphasis on carving in wood and stone. Prerequisite: ART 1327 or Divisional consent.* (0-6) 3

ART 1329 Sculpture III: Upon completion of this course, the student should have (1) expanded knowledge of basic sculpture; (2) performed individual investigation and work in modeling, casting, carving, and construction; (3) experimented with recently developed media in sculpture. Prerequisite: ART 1328 or consent.* (0-6) 3

ART 1333 Stained Glass: Upon completion of this course the student should be able to select the proper tools and materials of the stained glass medium; demonstrate working knowledge of the Tiffany method of stained glass construction; complete three projects using the above method.* (0-6) 3

ART 1334 Painting I: Upon completion of this course, the student should be able to select tools and materials for painting and will be able to demonstrate a knowledge of the elements of art and the principles of design as they apply to the production of painting.* (0-6) 3

ART 1335 Painting II: The student will continue the analysis and production of good pictorial composition and will continue experimentation in painting techniques and media. Prerequisite: ART 1334 or Divisional consent.* (0-6) 3

ART 1336 Painting III: The student will give special attention to painting as a means of personal expression and will continue to identify and solve problems of pictorial production in color form, and spatial illusion and will continue technical experimentation. Prerequisite: ART 1334 or Divisional consent.* (0-6) 3

ART 1344 Weaving I: In this course, the student will produce constructed textiles; warp and dress the loom; employ basic rug techniques, basic tapestry techniques, and basic basket techniques.* (0-6) 3

ART 1345 Weaving II: In this course the student will study fiber and fabric construction, drafting, and designing for the floor loom and will produce clothing and manipulated fiber constructions. Prerequisite: ART 1344 or permission of instructor.* (0-6) 3

ART 1346 Weaving III: In this course, the student will produce pieces demonstrating their exploration and understanding of double weave, IKat, 3-harness techniques, environments, and designing for the loom. Prerequisites: ART 1344 and ART 1345 or permission of instructor. (0-6) 3

ART 1347 Weaving IV: In this course, the student will explore, design, and execute one technique of fiber construction; its historical development and contemporary position in the aesthetics of the craft world. Prerequisites: ART 1344, ART 1345, ART 1346.* (0-6) 3

ART 1360 Raku: The student will study history, esthetics, and techniques of the raku ceramic process. The student will be provided experience in glazing, kiln building, and firing.* (0-6) 3

ART 1364 Ceramics I: Upon completion of this course, the student should be able to: (1) design and form clay-ware by the pinch, coil, and slab methods; (2) formulate and apply glazes.* (0-6) 3

ART 1365 Ceramics II: Upon completion of this course, the student should be able to: (1) design and produce ceramic projects building on the foundation of skills acquired in Ceramics I; (2) construct one major sculpture project which will combine at least one additional material with the clay; (3) practice basic wheel throwing methods; (4) keep an individual test tile record of glaze experiments. Prerequisite: ART 1364.* (0-6) 3

ART 1366 Ceramics III: Upon completion of this course, the student should be able to: (1) design and produce ceramic projects building on the foundation of skill acquired in Ceramics I and II; (2) formulate a base glaze test with variations; (3) describe how to load, fire, and unload a gas and an electric kiln. Prerequisite: ART 1365.* (0-6) 3

ART 1374 Jewelry I: Upon completion of this course, the student should be able to: (1) design and produce finished metal jewelry projects; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment; (3) demonstrate the ability to saw, file, forge, solder, and finish a variety of metals.* (0-6) 3

ART 1375 Jewelry II: Upon completion of this course, the student should be able to: (1) design and produce finished jewelry projects building on basic skills acquired in Jewelry I; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment including centrifugal casting equipment.* (0-6) 3

ART 1376 Jewelry III: Upon completion of this course, the student should be able to: (1) design and produce finished jewelry projects building on the basic skills acquired in Jewelry I and II; (2) demonstrate a knowledge of and proper care for jewelry tools and equipment. Emphasis will be on the relationship of material, function, and individual approach of the student. Prerequisite: ART 1375.* (0-6) 3

ART 1384 Basic Camera Techniques: Students will develop skills using their own 35mm camera. Upon successful completion of this course, the student should be able to determine proper exposure under a variety of light and subject conditions, including the use of flash. Instruction and practice will be provided in camera handling, films, filters, lenses and composition. Students will take photographs using color slides, which they may have commercially processed to demonstrate their understanding of specific camera techniques.* (3-0) 3

ART 1385 Photo Lab Processes I: This is a course in basic black-and-white laboratory processes. Students will take photographs with their own 35mm cameras, as well as the 4"x5" view camera, supplied by the instructor. Students will process film from both cameras and make enlargements from that film. Students will demonstrate skills in the use of certain laboratory techniques to enhance the quality of the photograph, such as control of density and contrast, burning and dodging, as well as basic photofinishing. Prerequisite: ART 1384* (1-4) 3

ART 1386 Photo Lab Processes II: Students will develop a portfolio of black-and-white photographs using their own 35mm cameras and the 4"x5" view camera supplied by the instructor. Upon completion of this course, student should be able to set up and operate the view camera for shooting still-lives and portraits in the studio, as well as for correcting vertical and horizontal distortion. Student should be able to calculate lighting ratios and arrange lighting set-ups for taking still-lives and portraits. Students will be able to use high contrast film, reversal film and solarization techniques to create special effects in the darkroom. Prerequisite: ART 1385* (1-4) 3

ART 1389 Color Printing I: This is an introductory course in color printing. Upon completion of this course, students should demonstrate an understanding of basic color theory, color printing theory and the equipment and materials for color negative printing. Students should be able to properly expose color negative film using their own 35mm cameras and be able to make 8"x10" color prints using those negatives. Students should also demonstrate basic skills in finishing and retouching color prints. Prerequisite: ART 1386* (1-4) 3

ART 1390 Color Printing II: Upon completion of this course, the student should be able to properly expose color transparency film and make color prints from that film. The student will use the view camera supplied by the instructor to shoot and print large format transparencies. The student should demonstrate an understanding of advanced techniques in lighting and the use of color correction filters when exposing color transparency film. Prerequisite: ART 1389* (1-4) 3

ART 1392 Advanced Camera Techniques: Upon completion of this course, the student should demonstrate an understanding of critical exposure techniques, the specialized use of lenses, filter, films, composition and electronic flash. Through the use of color slides which the students shoot with their own 35mm cameras and have commercially processed, students will demonstrate an understanding of the basic elements of environmental lighting techniques, nature photography, multiple exposure and the photo essay. Prerequisite: ART 1384* (0-3) 3

ART 2304 Independent Studio: A course designed to permit the individual student or group to work beyond the limits of the regular course offerings on self-determined objectives utilizing the resources of the Art Division. Prerequisite: Completed sequence of art courses in the area of proposed independent study.* (0-6) 3

ART 2322 Surface Design For Textiles: Introduction to major types of process for non-constructed textiles. Exploration of surface design and pattern. Techniques: stamping, stencil and resists, tie-dye, sew & dye, and batik. Prerequisite: ART 1322.* (0-6) 3

Automotive Body Repair

AUB 5100 Seminar I, AUB 5101 Seminar II, AUB 5102 Seminar III: These courses cover various aspects of the auto body repair field not included in the skill courses. The student should gain a better understanding of day to day auto body shop operations, problems, and their solutions. (1-0) 1

AUB 5201 Trim and Glass: Upon successful completion of this course, the student should be able to: (1) disassemble, rebuild and reassemble automobile doors; (2) remove and install windshields and back glass; (3) aim headlights; (4) remove and install seat covers and side trim. (1-3) 2

AUB 5202 Auto Renewal: Upon completion of this course, the student should be able to: (1) clean and repaint engines; (2) clean and dye seats and doors; (3) clean and dye headliners and carpets; (4) renew trunk and engine compartments; (5) buff and polish exterior surfaces; (6) clean and restore chrome; (7) clean and dress vinyl tops and convertible tops. (1-3) 2

AUB 5203 Estimating Auto Body Damage: Upon completion of this course, the student should be able to: (1) read a crash estimating guide; (2) prepare a damage estimate; (3) interpret an estimate; (4) estimate straight time costs. (2-0) 2

AUB 5214 Door and Fender Alignment: Upon completion of this course, the student should be able to: (1) align the hood and fenders of cars; (2) align the doors of cars; (3) align deck lids of cars; (4) replace the chassis sheet metal of a car as a unit. Co-requisite: WLD 5210. (1-3) 2

AUB 5223 Fiberglass and Metallic Fillers: Upon completion of this course, the student should be able to: (1) solder fill minor dents; (2) fiberglass fill small cracks and openings; (3) use powdered metal to fill rusted areas; (4) finish minor body defects using hammer and dolly, files, grinders, sanders and related tools. Co-requisite: AUB 5421. (1-3) 2

AUB 5224 Panel Installation: Upon completion of this course, the student should be able to: (1) remove damaged sheet metal panels; (2) use a power chisel; (3) install partial panels, patch panels and full panels; (4) use pop rivets; (5) use a panel spotter and wire spot welder. Co-requisite: AUB 5421. (1-3) 2

AUB 5233 Lacquer Painting: Upon completion of this course, the student should be able to: (1) spray paint using various lacquers; (2) sand and prepare a car for lacquer painting; (3) buff and finish a car after lacquer painting; (4) spot paint using lacquer paint; (5) seal and paint lacquer over old surfaces. Co-requisite: AUB 5431. (1-3) 2

AUB 5234 Enamel Painting: Upon completion of this course, the student should be able to: (1) sand and prepare a car for enamel painting; (2) spray paint using various enamel paints; (3) paint a single panel using enamel paint. Co-requisite: AUB 5431. (1-3) 2

AUB 5235 Special Finishes: Upon completion of this course, the student should be able to: (1) spray paint a vinyl top; (2) paint trunk compartments; (3) paint plastic parts; (4) pinstripe; (5) use various custom paints. Co-requisite: AUB 5431, AUB 5233. (1-3) 2

AUB 5300 Auto Body Minor Damage and Paint Repair: Upon completion of this course, the student should be able to: (1) use auto body shop tools and equipment; (2) repair minor sheet metal collision and rust damage; and (3) paint repaired spots and panels. (1-6) 3

AUB 5344 Body Shop Applications I: Upon completion of this course, the student should have: (1) gained confidence and skill in the use of all the techniques covered in the previous courses; (2) worked on actual collision repairs using the same methods and practices as recommended by the automobile manufacturers and related industry. Prerequisite: ALL AUB prefix courses first three quarters. (0-9) 3

AUB 5345 Body Shop Applications II: A continuation of AUB 5344. Prerequisite or Co-requisite: AUB 5344. (0-9) 3

AUB 5346 Body Shop Applications III: A continuation of AUB 5345. Prerequisite or Co-requisite: AUB 5345. (0-9) 3

AUB 5347 Body Shop Applications IV: A continuation of AUB 5346. Prerequisite or Co-requisite: AUB 5346. (0-9) 3

AUB 5412 Frame and Unitized Body Alignment: Upon completion of this course, the student should be able to: (1) use frame gauges; (2) use hydraulic tools for straightening auto body damage; (3) align body openings; (4) describe the types of major frame damage; (5) tie down a car; (6) use a frame machine to straighten frame damage. Co-requisite: WLD 5210. (2-6) 4

AUB 5421 Metal Finishing and Plastic Fillers: Upon completion of this course, the student should be able to: (1) shrink sheet metal; (2) use a hammer and dolly; (3) rough out and fill dents; (4) finish dents with plastic fillers; (5) use a grinder, body file and long sander. Co-requisite: WLD 5210. (2-6) 4

AUB 5431 Paint Equipment and Preparation: Upon completion of this course, the student should be able to: (1) disassemble, clean and reassemble a paint spray gun; (2) maintain a spray paint system; (3) select spray paint equipment; (4) sand and mask a car in preparation for painting; (5) use the basic techniques of spray painting. (2-6) 4

Course Descriptions

AUT 5201 Suspension Systems and Alignment: Upon completion of this course the student should have: (1) a basic understanding of the design of suspension systems found in domestic and foreign automobiles; (2) disassembled, inspected, reassembled and adjusted to manufacturers' specifications front and rear suspension components. (1-3) 2

AUT 5202 Automobile Brake Systems: Upon completion of this course the student should have: (1) a basic understanding of the braking systems used in domestic and foreign automobiles, and light-duty trucks; (2) disassembled, inspected and reassembled front and rear brakes, drum and disc type; (3) disassembled, inspected and reassembled the braking system's hydraulic components; (4) made all adjustments to manufacturers' specifications. (1-3) 2

AUT 5212 Electrical Testing: Upon completion of this course the student should be able to: (1) operate automotive electrical diagnostic equipment. (1-3) 2

AUT 5254 Automotive Heating and Air Conditioning: Upon completion of this course the student should have: (1) demonstrated an understanding of the operation of automotive heating and air conditioning systems to include electrical and mechanical controls; (2) developed competencies in the testing, service, and repair of the systems and system components; (3) demonstrated an understanding of safety precautions in the handling of refrigerants and working with pressurized heating and air conditioning systems. (1-3) 2

AUT 5295 Auto Mechanics Co-Op: Upon completion of this course, the student should be able to: (1) produce and describe a master work log sheet containing the various types and number of job tasks completed in an automotive service agency during this cooperative work experience; (2) demonstrate the acquired skills to make the transition from the classroom and lab to an actual job in the automotive industry with little or no difficulty. Prerequisite: Fourth quarter standing in Auto Mechanics Program. (0-20) 2

AUT 5302 Transport Refrigeration: Upon completion of this course the student should be able to: (1) describe the operation of a typical transport refrigeration system; (2) list the procedures to discharge, evacuate, and charge a transport refrigeration system; (3) analyze the control system of a transport refrigeration unit; (4) state procedures for troubleshooting the system; (5) describe the safety precautions required when handling refrigerants and servicing the transport systems. Prerequisite: AUT 5254 or AHR 5411 or approval of AUT Program Director based on student's previous experience. (3-0) 3

AUT 5307 Auto Electrical and Fuel Systems Applications: Upon completion of this course the student should have developed competencies in performing tasks required in the service and repair of basic automotive electrical and fuel systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor. Prerequisite: AUT 5405, AUT 5415, AUT 5416. (1-6) 3

AUT 5308 Auto Chassis and Suspension Systems Applications: Upon completion of this course the student should have developed competencies in performing tasks required in the service and repair of automotive suspension, steering, and braking systems. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor. Prerequisite: AUT 5404. (1-6) 3

AUT 5309 Auto Engine and Powertrain Applications: Upon completion of this course the student should have developed competencies in performing tasks required in the service and repair of automotive engines, clutches, transmissions, drive shafts, and differentials. Tasks will be performed on live vehicles using manufacturers' recommended procedures. Evaluation will be based on accuracy and proficiency using flat rate time as a factor. Prerequisite: AUT 5401, AUT 5402, AUT 5425, AUT 5426. (1-6) 3

AUT 5401 Internal Combustion Engines: Upon completion of this course the student should be able to: (1) disassemble, measure parts, reassemble and run selected automobile engines; (2) adjust to manufacturers' specifications. (2-6) 4

AUT 5402 Internal Combustion Engines II: Upon completion of this course the student should be able to: (1) disassemble, measure parts, reassemble and run selected automobile engines; (2) adjust to manufacturers' specifications; (3) grind valves and reface seats on cylinder heads; (4) remove and install cam bearings using special tools. Prerequisite: AUT 5401. (2-6) 4

AUT 5403 Basic Calculations for Auto, Diesel and Power Mechanics: Upon completion of this course, the student should be able to: (1) apply the principles of addition, subtraction, multiplication and division to problems indigenous to the automotive field; (2) use the functions of ratio and proportion to solve gear, crankshaft and pulley problems; (3) accurately read a ruler, micrometer and feeler gauge; (4) use area and volume formulas; (5) apply angular and geometric measurement toward cylinder, chassis and flywheel problems; (6) construct line and bar graphs; (7) understand scale measurement; (8) discuss measurement in terms of the metric system as well as the English system. (4-0) 4

AUT 5404 Auto Chassis and Suspension Systems: Upon completion of this course the student should be able to: (1) disassemble, repair as necessary and reassemble the following components: (a) manual and power steering, (b) front and rear suspension unit, (c) drum and disc type brakes; (2) check and adjust front end alignment angles; (3) balance wheels. (2-6) 4

AUT 5405 Basic Automotive Fuel Systems: Upon completion of this course the student should be able to: (1) disassemble, repair as necessary, and reassemble major United States manufacturers' carburetors; (2) describe the operations and construction of carburetors, fuel pumps and modern emission control devices. (2-6) 4

AUT 5415 Electrical Systems I: Upon completion of this course the student should be able to: (1) disassemble, repair as necessary, reassemble and test automobile generators, alternators, starters, distributors and electrical accessories; (2) describe the operation and construction of the above automobile components. (2-6) 4

AUT 5416 Electrical Systems II: Upon completion of this course the student should be able to: (1) operate automotive electrical diagnostic equipment; (2) perform the procedures used for a major automotive tune-up on typical vehicles. Prerequisite: AUT 5415. (2-6) 4

AUT 5425 Auto Power Train Systems I: Upon completion of this course the student should be able to: (1) disassemble, repair as necessary, and reassemble the following components: (a) three and four speed manual transmissions; (b) drivelines; (c) differential units. (2-6) 4

AUT 5426 Auto Power Train Systems II: Upon completion of this course the student should be able to: (1) disassemble, repair as necessary, and reassemble the following automatic transmissions: (a) General Motors Powerglide; (b) C-4 Ford; (c) General Motors Turbo-350; (d) Chrysler Torqueflite. Prerequisite: AUT 5425. (2-6) 4

Banking and Finance

BAF 3400 Principles of Bank Operations: Upon successful completion of this course the student should be able to explain how to control cash items and deposits, describe the role of the bank bookkeeper, discuss the management of bank funds, bank control systems, and paying teller operations, and demonstrate knowledge of control systems for cash and deposit items. (3-2) 4

BAF 3401 Bank Management: Upon successful completion of this course the student should be able to explain the nature and objectives of banking; describe the planning, organizing, staffing, and control functions of banking management; demonstrate a thorough knowledge of policies relating to the deposit and investment of bank funds, loans, trusts and estates; and describe the role of bank auxiliary services. Prerequisite: BAF 3400 is recommended. (3-2) 4

BAF 4400 Loan Credit Analysis: Upon successful completion of this course the student should be able to describe the three basic kinds of financial statements and their interrelationships; analyze these statements using ratios to determine levels of liquidity, coverage, and profitability; perform short and long term risk analysis of individual and bank loan requests; and develop cash flow and related budgetary projections. Prerequisite: None but BAF 3400 is recommended. (3-2) 4

BAF 4401 Management of Commercial Bank Funds: Upon successful completion of this course the student should be able to discuss the major sources and uses of bank funds, analyze investment portfolios in terms of value and yields list and describe coordination, describe the types of non-money market liabilities, and explain the liquidity needs of banks. (3-2) 4

BAF 4402 Federal Reserve System: Upon successful completion of this course the student should be able to describe the organizational structure of the Federal Reserve; differentiate between and discuss the nature of fiscal and monetary policy; list the various methods used by the Federal Reserve to influence credit; interpret interest rate movements, the balance of payments concept and the bank reserve equation; describe the supervisory function of the Federal Reserve, and interpret current actions and policies of the Federal Reserve. Prerequisite: None, but BAF 3400 is recommended. (3-2) 4

BAF 4403 International Banking: Upon successful completion of this course the student should be able to describe the basic framework and fundamentals of international banking; explain how money is transferred from one country to another; discuss the methods of financing international trade; list and describe the international agencies involved with international banking; and describe the nature of international currency markets. Prerequisite: None, but BAF 3400 is recommended. (3-2) 4

Biological Science

BIO 1500 Biological Science: A foundation course designed to introduce selected fundamental biological principles. Upon satisfactory completion of this course the student should be able to demonstrate an understanding of the following topics: the cell, reproduction, genetics, embryology, transport mechanisms, photosynthesis, respiration, evolution, and ecology. (3-4) 5

BIO 1501 General Botany: An introductory study of green and non-green plants. Upon satisfactory completion of this course the student should be able to demonstrate a knowledge of the following topics: plant cell structure and function, taxonomy, reproduction, genetics, mineral nutrition, and ecology. Prerequisite: BIO 1500 suggested but not required. (3-4) 5

BIO 1502 General Zoology: An introductory study of the major groups of animals. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of animal anatomy, physiology, homology, ecology, life histories, classification, and evolution. Prerequisite: BIO 1500 suggested but not required. (3-4) 5

BIO 1503 Microbiology: An introduction to the world of microorganisms — bacteria, viruses, fungi, protozoa, and Rickettsia — with emphasis upon bacteria. The student, upon satisfactory completion of this course, should have gained knowledge of the structure of microorganisms, interrelationships between them, factors influencing their growth, and some effects of their activities upon people. (3-4) 5

BIO 1504 Human Anatomy and Physiology I: An introductory course in the normal structure and function of human body systems emphasizing interrelationships of each. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of the following systems: cellular biology, tissues, skeletal, muscular, nervous, and sense organs. (3-4) 5

BIO 1505 Human Anatomy and Physiology II: A continuation of BIO 1504 with emphasis on the following systems: circulatory, respiratory, digestion, endocrine, reproduction, urinary, acid base, fluid-electrolyte. Prerequisite: BIO 1504 suggested but not required. (3-4) 5

BIO 2300 Genetics: A study of the fundamental laws of heredity with emphasis on human heredity. Having satisfactorily completed this course, a student should be able to demonstrate a working knowledge of the behavior of chromosomes and genes, mutation and chromosomal abnormalities and quantitative inheritance, gene and chromosome structure, cytoplasmic inheritance, evolution, population genetics, environment and heredity, and eugenics. (3-0) 3

BIO 2304 Human Nutrition: Upon successful completion of this course the student should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing relating to nursing. (3-0) 3

BIO 2305 Dental Nutrition: Upon successful completion of this course the student should be able to identify sources and functions of nutrients and relate them to the life cycle and have a basic understanding of principles of interviewing relating to dental hygiene. (3-0) 3

BIO 2500 Introduction To Entomology: A basic course designed to give a practical approach to the study of insects. Upon satisfactory completion of this course the student should be able to demonstrate a knowledge of the fundamentals of insect classification, development, food habits, and controls. (3-4) 5

BIO 2501 Ornithology: An introduction to the study of birds. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of anatomy, physiology, ecology, life histories, behavior, evolution, and identification of birds. (3-4) 5

BIO 2502 Marine Biology: Upon satisfactory completion of this course, the student should be able to demonstrate, orally or in writing, understanding of topics on marine biology, with emphasis on field studies of various marine habitats (including the beach intertidal zone, the salt marsh, mud flats, salt water creeks and the open ocean). Prerequisite: BIO 1502 or consent of instructor. (3-4) 5

BIO 2504 Selected Topics in Biology: This course is offered in order to comply with the needs of students who want subject matter not included in the other courses offered by the biology department. Upon satisfactory completion the student should have an understanding of such courses as: Animal Behavior, Embryology, Histology, Exercise Physiology, Parasitology, Physiology, Crop Plants, Local Flora, Plant Anatomy, and Plant Morphology. Prerequisite: Consent of the Department Head. (3-4) 5

BIO 2514 Vertebrate Zoology: An introductory study of the vertebrate animals. Upon satisfactory completion of this course the student should be able to demonstrate knowledge of vertebrate anatomy, physiology, embryology, systematics, homology, life histories, ecology, behavior, and evolution. Prerequisite: BIO 1500 or Departmental consent. (3-4) 5

BIO 2524 General Ecology: An introductory course in general ecology and environmental function. Upon satisfactory completion of this course the student should be able to demonstrate a knowledge in the following areas: animal and plant interrelationships, habitats, energy flow, biogeochemical cycles and the economic importance of ecology. A laboratory is included which should point out to the student the importance of pollution problems and their effects on normal ecological systems. (3-4) 5

Course Descriptions

BIO 3404 Cardio-Pulmonary Anatomy and Physiology: A specialized course to provide an in-depth study of cardiovascular and respiratory functions and their interrelationships. Upon satisfactory completion of this course the student will be able to demonstrate an understanding of Circulatory and Respiratory Anatomy and Physiology. Emphasis is placed on the interpretation of blood-gas measurements. (3-2) 4

BIO 3600 Basic Health Science: An introductory course in the normal structure and function of the human body. Upon satisfactory completion of this course the student should be able to discuss the anatomy, physiology, and interrelationships of the following systems: musculoskeletal, nervous, circulatory, respiratory, urinary, endocrine and reproductive. (5-2) 6

BIO 9500 Introduction To Biology: An individualized, self-paced course for students who need to update or review basic concepts in Biology. The students select the modules that meet their particular needs. Upon successful completion, the student should be able to demonstrate an understanding of six (6) of the following modules: Cell structure and function, DNA, Meiosis and Mitosis, Heredity, Biochemistry, Respiration and Photosynthesis, Microbiology, Human Anatomy, Classification, Embryology, Nutrition, Ecology. BIO 9500 is tuition free and the necessary books are available in the library. (5-0) 5

Business

BUS 1400 Introduction To Business: Upon successful completion of this course the student should be able to describe the legal and economic environment of business, discuss the basic types of internal and external business forms, describe the functions of business, and discuss the role of management in the business enterprise. (3-2) 4

BUS 2304 Business Law I: This course is primarily concerned with contracts, their creation and discharge as applied to business and everyday life. Upon successful completion of the course the student should be able to describe the structure of State and Federal courts. Further, the student should have the ability to recognize personal and business crimes and torts and will have a general understanding of contract law and the effect of the Uniform Commercial Code on contracts. (3-0) 3

BUS 2305 Business Law II: This course continues the study of the Uniform Commercial Code and other business laws. Upon successful completion of the course the student should have a working knowledge of sales, commercial paper, secured transactions, insurance and bankruptcy. Prerequisite BUS 2304 or consent of Division Head. (3-0) 3

BUS 2306 Business Law III: Upon successful completion of the course the student should be able to describe agency and what effects agency has on the rights and liabilities of the principal, agent and third party, as well as distinguish between partnerships and corporations, their creation and general rights and liabilities created by each. The student should also be able to explain the laws governing employment contracts, personal property, real property, trusts and estates. Prerequisites: BUS 2304 or consent of Division Head. (3-0) 3

BUS 3300 Human Relations In Business: This course is primarily concerned with how people interact in the business environment, and the psychological principles underlying these interactions. Upon successful completion of this course, the student should be able to: trace the development of the human relations field; communicate effectively by speaking, listening and writing; explain motivation techniques; discuss how individual and group morale is affected by the work environment, recognize and list where treatment for an alcoholic and drug addicted employee is available; discuss creativity, the creative process and its importance in business; recognize resistance to change; apply decision making skills in analyzing business cases; define status and give examples of its influence on the work force; discuss job discrimination; explain the impact of intercultural relations on the work force and foreign trade. Prerequisite: None, but COM 1304 is suggested. (3-0) 3

BUS 4394 Individual Study—Business Administration: This course provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor, Division Head and appropriate Vice President is required. (3-0) 3

BUS 3304 Business Statistics: Upon successful completion of this course the student should be able to differentiate between descriptive and inferential statistics, calculate measures of central tendency and variability, employ "z" tables, discuss probability theory and its uses and calculate regression and correlation coefficients. Prerequisite: FIN 3314 or MAT 3504. (3-0) 3

BUS 3343 Money and Banking: Upon successful completion of this course the student should be able to describe how the banking system operates, discuss the role of commercial banks and the federal reserve, list the types of monetary and fiscal alternatives available to economic policymakers, and discuss the application of fiscal and monetary policy to specific economic problems. (3-0) 3

BUS 4303 Labor Law: This course surveys the various laws that affect the employee/employer relationship, such as wage and hour laws, child labor laws, OSHA and NLRB rules and regulations. Upon successful completion of this course the student should be able to recognize which of the various agencies control a specific employee/employer relationship and describe the basic procedures used by these agencies. (3-0) 3

BUS 4340 Consumer Credit: Upon successful completion of this course the student should be able to discuss the role of credit in the American economy; list the major characteristics of retail revolving, charge, and installment credit; discuss the principles of consumer credit management; describe the process of credit investigation; discuss the role of various consumer credit institutions; and apply knowledge to the development of a "case" consumer credit department. Prerequisite: None, but this course should be taken prior to CFM 4341. (3-0) 3

BUS 4341 Commercial Credit: Upon successful completion of this course the student should be able to differentiate between consumer and commercial credit, discuss business use of credit, define the role of the commercial credit manager, list and discuss the sources of credit information, differentiate between various credit institutions, analyze financial statements, develop a set of credit standards for a business, and apply those standards to a "case" commercial credit department. (3-0) 3

BUS 4344 Credit Management Problems: Upon successful completion of this course the student should be able to employ decision making skills in credit management through the use of financial statements, credit reports, bank references, and related credit documents. Prerequisite: BUS 4341, FIN 4317 or consent of the Division Head. (3-0) 3

Consumer Education

CED 1500 Consumer Education: Upon satisfactory completion of this course, the student should be able to explain the fundamentals of personal and family budgeting; explain efficient buying procedures including comparative shopping and product analysis; explain uses of credit, the cost of borrowing and how it is managed; explain insurance protection needed in the areas of health, life, property and casualty; explain the fundamentals of investing; and explain the sharing of income including taxation and giving for public purposes. (5-0) 5

Chemistry

CHM 1500 Introductory Chemistry: An introductory course with laboratory experiences designed for the student with little or no background and no prior interest in chemistry. The topics integrate basic chemical principles with environmental and technological applications. Upon successful completion of this course the student should be able to demonstrate an understanding of some of the basic concepts of chemistry and their applications. (3-4) 5

CHM 1501 Chemistry for the Health Professions I: A general chemistry course designed for the student preparing for a career in the allied health areas such as nursing, dental hygiene, respiratory therapy; also for the student in the liberal arts. Topics include a study of the fundamental concepts, laws, and theories of inorganic chemistry with laboratory experimentation. Upon successful completion of the course, the student should be able to demonstrate an understanding of basic chemical principles of inorganic compounds. Prerequisite: high school chemistry or CHM 1500; high school algebra or MAT 9510 (3-4) 5

CHM 1502 Chemistry for the Health Profession II: A continuation of CHM 1501 with laboratory experimentation which includes an introduction to organic chemistry and biochemistry. Upon successful completion of the course the student should be able to demonstrate an understanding of the chemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes, vitamins and hormones and their role in metabolic processes. CHM 1502 may be of interest to students entering the fields of biology, medicine, or dentistry as an introduction to biochemistry. Prerequisite: CHM 1501. (3-4) 5

CHM 1504 General Chemistry I: A study of the fundamental principles and laws of chemistry with emphasis on the relationship of atomic structure to physical and chemical properties of the elements. Individualized lab experiments deal with the verification of chemical laws and the development of problem-solving skills. Applications of chemical principles will be made in the area of environmental problems such as energy and pollution. After completing this course the student should be able to: (1) apply the scientific method in problem solving; (2) demonstrate the basic laboratory techniques for successfully and safely conducting chemical experiments; (3) solve problems and demonstrate an understanding and appreciation of certain chemical laws, principles, concepts and theories such as: metric system, atomic structure, laws of chemical combinations, stoichiometry, gas laws, kinetic molecular theory, theory of chemical bonding and simple nomenclature; (4) relate the knowledge of chemistry to the real world such as identifying specific societal problems created and/or solved by the science of chemistry. The following students should take the CHEM 1504, CHEM 1505, CHEM 1506 sequence: students with major emphasis in forestry, agriculture, dentistry, optometry, para-medics, medicine, pharmacy, nursing (B.S. degree), geography, textiles, chemical technology, geology, biology, and any other areas of science and math. Prerequisite: MAT 9310 or two years of high school algebra and/or of the following: Co-requisite: MAT 1504, MAT 1514, MAT 3504 or Departmental consent. (3-4) 5

CHM 1505 General Chemistry II: A continuation of CHM 1504, with emphasis on chemical equilibrium, kinetics, solution stoichiometry, acid-base theories, and electrochemistry. Some chemical application will be made in the areas of environmental problems, biological systems and industrial processes. After completing this course the student should be able to: (1) solve problems dealing with systems in equilibrium; (2) solve solution problems; (3) recognize and apply various acid-base theories to chemical equations; (4) demonstrate an understanding of such things as redox potentials, reactions kinetics, and colligative properties of solutions. Prerequisite: CHM 1504 or Departmental consent. (3-4) 5

CHM 1506 General Chemistry III: A continuation of CHM 1505 with emphasis on ionic equilibrium and relating chemical properties to atomic and molecular structures. Includes introduction to organic chemistry. Both qualitative and quantitative analysis, with the use of some instrumentation, are included. Applications are made to biological systems and to environmental problems. After having completed this course the student should be able to demonstrate an understanding of ionic equilibrium by solving various problems dealing with PH, Hydrolysis, K_{sp}, buffers, redox titration and acid base titrations. The student should be able to relate chemical and physical properties of common elements and ions to the periodic table and show well-developed lab techniques in experiments involving weighing, filtering and titrating. Prerequisite: CHM 1505 or Departmental consent. (3-4) 5

CHM 2-04 Special Problems: An advanced problem course of independent study in which a student and advisor select an appropriate topic for both laboratory and library research in the field of chemistry. After completing this course the student should be able to successfully conduct a relatively simple library and lab research project in chemistry and present the results in proper written form. Prerequisite: CHM 1506 or Departmental consent. 3-5

CHM 2414 Introductory Organic Chemistry: An introductory organic chemistry course designed for the student that may need a review of certain laws, principles and facts from general chemistry that are fundamental to organic chemistry. A brief review of atomic structure, bonding, and acid base theories is included. It is a non-lab survey course for both the science and the nonscience student. Chemical and physical properties of various compounds and common functional groups are related to their structure. Nomenclature and practical applications to related fields and to the real world are emphasized. Although this is designed as a preorganic chemistry course, other interested students should be successful in the course. After having completed this course the student should: (1) have a basic knowledge in organic chemistry to be successful in a higher level organic course. (2) be able to apply the learning to other fields of study such as biology. (3) be able to relate the knowledge to the real world. Prerequisite: CHM 1500 or CHM 1501, CHEM 1504, CHM 1505, CHM 1506. (4-0) 4

CHM 2455 Textile Coloring and Testing: Upon completion of this course the student should be able to: (1) dye fibers and fabrics of cotton, wool, acetate, nylon and polyester in the laboratory; (2) describe large scale dyeing and finishing of some of these materials in area industries. Prerequisite CHM 1505 or equivalent. (2-4) 4

CHM 2604 Quantitative Chemical Analysis: Emphasizes a variety of industrial analytical methods. Students successful in this course will be able to make analyses accurately using both volumetric and gravimetric methods. The student will also perform well in the use of the calorimeter, potentiometer, and infrared spectrophotometer. Prerequisite: CHM 1506 or Departmental consent. (3-6) 6

CHM 2614 Organic Chemistry I: A systematic study of the theories, principles, and techniques of organic chemistry and their application to reactions of aliphatic and aromatic compounds and natural products. Reaction mechanisms are emphasized. Some chemical applications are made to environmental problems and to industrial processes. Laboratory work includes purification, characterization and synthesis of organic compounds with emphasis on the improvement of scientific problem-solving skills. After having completed this course the student should be able to: (1) name the common members of the families of organic compounds studied and describe their chemical and physical properties; (2) demonstrate a working knowledge of organic synthesis of the compounds studied based on reaction mechanisms; (3) perform common organic lab experiments in a reasonably safe manner using proper techniques; (4) recognize and/or describe simple chemical tests for certain functional groups. The following students should take the CHM 2614-CHM 2615 sequence: students with major emphasis in dentistry, optometry, medicine, para-medics, engineering, (chemical, petroleum, sanitation, environmental) pharmacy, textiles, chemical technology, chemistry and biology. Prerequisite: CHM 1506 or Departmental consent. (4-4) 6

CHM 2615 Organic Chemistry II: A continuation of CHM 2614 with a greater emphasis on instrumental analysis in the laboratory. Introduction to biochemistry is included. After completing this course the student should be able to identify some unknown organic compounds using NMR, UV, IR, and mass spectra. The student should be able to recognize the chemical properties of the common functional groups and should have well developed lab techniques as demonstrated in the identification and synthesis of certain organic compounds. Prerequisite: CHM 2614 or Departmental consent. (4-4) 6

CHM 2625 Chromatography: Upon completion of this course the student should be able to: (1) describe techniques of physical separation of complex mixtures; (2) enumerate conditions favorable to differential migration of sample components in a chromatographic separation; (3) make separations of mixtures employing paper, thin layer, and gas chromatography. Prerequisite: CHM 1505. (3-6) 6

CHM 2626 Optical Methods of Chemical Analysis: Upon completion of this course the student should be able to: (1) perform analyses employing such optical instruments as the polarimeter, refractometer, colorimeter, fluorimeter, infrared spectrophotometer; (2) enumerate most of the theoretical relationships upon which the operation of these instruments are based. Prerequisite: CHM 1506. (3-6) 6

CHM 9500 Fundamentals of Chemistry: Designed to provide the student with a basic foundation in chemistry as preparation for college curriculum courses. Matter, energy, formula writing and equation balancing, ionization, acids and bases, metric system and introductory biochemistry are the units available for study. College Transfer students, Health Program students, Fire Protection Technology and other technical program students will benefit from completing this course. Any student may enroll for CHM 9500. There are no prerequisites. All books are available in the library. (0-10) 5

Civil Engineering Technology

CIV 3306 Construction Materials and Methods: Upon completion of this course the student should be able to: (1) identify construction materials and their physical properties; (2) discuss the manufacturing processes used to produce common building materials; (3) identify types of construction equipment and their applications; (4) explain the methods used to assemble building components; and (5) through site visitation, evaluate the actual application of construction techniques. (2-3) 3

CIV 3504 Surveying I: Upon completion of this course the student should be able to: (1) measure distances with a surveyor's tape or an electronic distance measuring device; (2) apply geometric principles to correct a taped distance for a standardized measurement; (3) perform the calculations and field operations for differential and profile leveling; (4) use a transit for the measurement of horizontal and vertical angles; (5) calculate bearings and azimuths; and (6) collect data and plot a contour map. Co-requisite: MAT 3507, ARC 3334. (3-6) 5

CIV 3514 Statics: Upon completion of this course the student should be able to: (1) identify and differentiate between various force systems; (2) solve problems involving the effects of forces acting on bodies at rest; (3) solve by various methods for the magnitude, direction, sense, and point of application of unknown forces to maintain static equilibrium; (4) apply the fundamentals of static friction; (5) locate centroids of composite areas; (6) compute the rectangular moment of inertia of an area about various axis; and (7) apply principles of statics to hydraulic problems. Prerequisite: MAT 3507. (3-6) 5

CIV 3524 Strength of Materials: Upon completion of this course the student should be able to: (1) identify types of stresses that develop in structures; (2) compute deformation and strain in bodies due to stress systems acting on the body including torsional as well as axial; (3) construct shear and bending moment diagrams of beams; (4) solve for stresses caused by tension bending and shear; (5) compute the deflection in beams; (6) calculate stresses due to combined axial and bending loads; (7) analyze and design welded and bolted connections; (8) apply Euler's equation to columns. Prerequisite: CIV 3514 (3-6) 5

CIV 4204 Construction Planning (CPM): Upon course completion the student should be able to: (1) define the operations comprising a construction project; (2) establish time estimates for each operation; (3) determine the proper sequence of operations and coordination of building trades; (4) apply manually and using a computer the critical path method (CPM) to construction planning and scheduling; (5) allocate resources and level manpower; (6) analyze time-cost relationship. Prerequisite: CIV 3306, ARC 4200. (1-3) 2

CIV 4220 Principles of Hydraulics: Upon completion of this course the student should be able to: (1) identify various properties of fluids; (2) understand and apply the principles of hydrostatic pressures to practical problems; (3) analyze flow characteristics over weirs; and (4) analyze flow characteristics in open channels. Prerequisite: CIV 3514, MAT 3507. (1-3) 2

CIV 4300 Codes and Contracts: Upon completion of this course the student should be able to: (1) demonstrate a basic understanding of the N.C. commercial and residential building codes; (2) recognize and utilize basic contract terminology; (3) state the basic principles of contractual relationships; (4) discuss the bidding process relative to contracts. Prerequisite: ARC 3335 or equivalent. (2-3) 3

CIV 4302 Plain Concrete: Upon completion of this course the student should be able to: (1) describe the characteristics of coarse and fine aggregates, and properties of cement and water suitable for use in Portland Cement Concrete; (2) design a concrete mix based on strength and durability requirements; (3) conduct tests for compressive strength on concrete cylinders; (4) evaluate the effect of strength of concrete of various water/cement ratios, curing methods, and admixtures; (5) observe the actual application of concrete construction technology through site and plant visitation. (1-6) 3

CIV 4305 Construction Estimates: Upon completion of this course the student should be able to: (1) discuss the various bid terms and contract documents as they affect construction; (2) determine the cost of various equipment and methods necessary for construction; (3) complete quantity take-offs on commercial and residential construction; (4) apply pricing to quantity surveys; and (5) use approximate methods for determination of building costs. Prerequisite: ARC 3335, CIV 3306. (2-3) 3

CIV 4344 Construction of Roads and Pavements: Upon completion of this course the student should be able to: (1) perform and interpret the results of the Atterburg Limits, Standard Proctor, California Bearing Ratio, and Unconfined Compression Tests; (2) classify soil according to the Unified and AASHTO Classification Systems; (3) discuss the engineering properties of soils and calculate mass-volume relationships; (4) construct a Mass Diagram from a set of cross-section notes and compute average haul and limit of economic haul; (5) compute run-off from drainage area; (6) determine culvert and ditch sizes; (7) determine the thickness of flexible and rigid types of highway surfaces; and (8) design an asphalt mix by the Marshall Method. Prerequisite: CIV 4302, CIV 3524, CIV 4406 (1-6) 3

CIV 4405 Surveying II: Upon completion of this course the student should be able to: (1) collect data for a closed traverse using a theodolite and an EDM; (2) balance and plot a closed polygon traverse; (3) tie traverse into The State Plane Coordinate System; (4) locate topography within traverse by stadia and use of plane table; (5) compute areas by both coordinate method and double meridian distance method; (6) use rectangular coordinates to inverse bearings and lengths of lines; and (7) determine true meridian by solar or polaris observation. Prerequisite: CIV 3504. (2-6) 4

CIV 4406 Surveying III: Upon course completion the student should be able to: (1) use the County Register of Deeds Office records to research property records and state the requirements for filing of property maps and deeds; (2) discuss the legal aspects of surveying based on the N. C. Manual of Practice; (3) lay out cross-sections of roadways and from the sections compute earthwork quantities; (4) calculate and stake out horizontal and vertical roadway curves; (5) apply the methods of lines and grades to a roadway design problem; (6) lay out foundations and give lines and grades for construction of a building; and (7) discuss basic theory of photogrammetry and its application. Prerequisite: CIV 3504. (2-6) 4

CIV 4424 Foundation Construction: Upon completion of this course the student should be able to: (1) list the techniques of subsurface soil investigation; (2) apply earth pressure theories for bearing capacity and principles of foundation action; (3) determine lateral earth pressure both analytically and graphically; (4) analyze and design, using ultimate strength method, reinforced concrete wall footings, individual column footings, combined footings, pile foundations and retain walls; (5) design excavation bracing. Prerequisite: CIV 4427, CIV 4434. (3-3) 4

CIV 4427 Steel and Timber Design: Upon completion of this course the student should be able to: (1) analyze and design steel beams, tension members, columns members involving combined axial and bending stresses, continuous spans, welded, bolted, and riveted connections; (2) use the latest American Institute of Steel Construction Manual and specifications; (3) analyze and design timber members. Prerequisite: CIV 3524. (3-3) 4

CIV 4434 Reinforced Concrete Design: Upon completion of this course the student should be able to: (1) analyze and design, by means of the ultimate strength method of the latest ACI Building Code, reinforced concrete rectangular beams, T-Beams, continuous members, columns, and floor systems, composed of beams and one-way slabs; (2) calculate the basic stresses of prestressed concrete beams; (3) design forms for concrete structures. Prerequisite: CIV 3306, CIV 3524, CIV 4302. (3-3) 4

CIV 494 Independent Study: This course is designed to provide students with the opportunity to develop special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and program director is required prior to enrollment. (1-5 Credits)

Communications

COM 1304 Introduction To Communication: Upon successful completion of COM 1304, using standard American English the student should be able to write paragraphs and multi-paragraph expository themes which have a clear beginning, substantial support, and a definite end. A variety of activities including reading, lecture/discussion, prewriting and writing will be used. Prerequisite: Approved placement exam score, successful completion of ENG 9510 or by consent of Department Head. (3-0) 3

COM 1305 English Composition II: This course is designed to provide the student with opportunities to develop critical thinking skills which will be utilized in written compositions based upon the student's analysis and interpretation of prose selections, including the short story and the novel. Utilization of secondary sources will be required for one of the major written assignments. Prerequisite: COM 1304 or consent of Department Head. (3-0) 3

COM 1306 English Composition III: Upon successful completion of COM 1306, the student should be able to use basic research techniques to write a formally documented research paper. The student will also be able to write critically and objectively about ideas expressed in drama and poetry. Prerequisite: COM 1305 or consent of Department Head. (3-0) 3

COM 1324 Creative Writing: This course is designed to provide students with the opportunity to practice the craft of writing, to find pleasure in writing as a means of self-expression, and to explore techniques which aid in sharpening their writing styles. Emphasis is placed on the basic elements of fiction and poetry. Students' writings are read and critiqued in class. (3-0) 3

COM 1325 Advanced Creative Writing: For the student with creative work already in progress, this course probes the practical aspects of technique, style and development with an emphasis on the short story and poetry. Students' writings are critiqued in class. Attention is given to the process of revision — of refining and shaping the work into a polished form. Prerequisite: COM 1324 or consent of Department Head. (3-0) 3

COM 2390 Individual Study: This offering is made to provide students with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the department. Objectives will be determined by the student and the sponsoring instructor. Prerequisite: Approval of the sponsoring instructor and the Department Head. (3-0) 3

COM 3305 Communications II: Upon successful completion of COM 3305, the student should be able to prepare various types of business communications including letters, memoranda, and resumes. The student should also be able to demonstrate application of the basic principles of English by developing adequate sentences, paragraphs, and whole compositions. Prerequisite: COM 1304 or consent of Department Head. (3-0) 3

COM 3306 Communications III: Upon successful completion of COM 3306, students should be able to use multiple resources to research, develop, and write a report pertaining to their chosen curricula and should be able to prepare various types of communications including formal definitions, descriptions of mechanisms and processes. Prerequisite: COM 3305 or consent of Department Head. (3-0) 3

COM 3515 Advanced Grammar: Upon completing the course successfully, the student should be able to identify constructions, forms, and usages of words and the relationship of words within the sentence. The student should also be able to compose sentences according to given structural patterns and to apply basic rules of preparation. (5-0) 5

COM 5301 Communications Skills II: Upon successful completion of COM 5301, the student should be able to identify some of the major barriers to communications, use basic research procedures and produce a properly documented library paper, correctly spell 150 of the most frequently misspelled words in business correspondence and be able to write business letters free from major mechanical errors. Prerequisite: COM 5500 or consent of Department Head. (3-0) 3

COM 5500 Communications Skills: Upon successful completion of COM 5500, the student should be able to pronounce, spell, and define words directly related to the student's technical or trade area; write job-related letters and a personal resume; discuss a given topic both orally and in writing; and demonstrate familiarity with periodicals in the student's trade field. (5-0) 5

Correctional Science

CSC 3302 Assistant Court Counselor: Upon completion of this course the student should be able to prepare a pre-sentence investigation report; prepare a technical report including a summary, and using short definitive statements; understand and show by demonstration the proper courtroom decorum and etiquette; develop relationships with other court personnel; prepare a narrative report and orally make a presentation to a group. (3-0) 3

CSC 3303 Supervision for Probation and Parole: Upon completion of this course the student should be able to conduct interviews with clients, families, and other interested persons; conduct interviews with clients, families, and other interested persons; learn to assist clients by knowing the various referral agencies and resources available; prepare an assessment report detailing the needs of the client and the community; use the approved methods of supervision and surveillance of clients; use Transactional Analysis, Reality Therapy, and Behavior Modification techniques in assisting clients; effectively intervene in a crisis situation; understand the problems in dealing with substance abuse counseling. (3-0) 3

CSC 3500 Introduction to Corrections: Upon completion of this course the student should be able to: (1) demonstrate a broad overview of corrections, probation and parole; (2) discuss correctional concepts; (3) understand the rights of convicted criminals; (4) understand correctional administrative functions; (5) discuss various job positions and classifications common to State and Federal Agencies and institutions devoted to corrections. (5-0) 5

CSC 3501 Correctional Psychology: Upon completion of this course the student should be able to: (1) identify the most common psychological demands, affects and effects of the corrections function upon personnel; corrections officer; treatment staff; probation and parole officer; court officer and related fields charged with supervision and treatment of persons held in confinement; (2) demonstrate an understanding of programs used to classify and treat inmates; (3) identify the causes of controlling people in confinement, its psychological impact on the custody staff and subordinates; (5) identify the types of inmates and their behavioral characteristics; (6) know the remedial services that are available. (5-0) 5

CSC 3504 Juvenile Justice System: Upon completion of this course the student should be able to: (1) cite the history and evolution of the Juvenile Justice System; (2) outline the present day Juvenile Court process and procedure; (3) identify the characteristics of juvenile offenders and their sub-culture; (4) depict the process from arrest to final disposition for juvenile offenders; (5) be acquainted with the variety of dispositions; (6) differentiate between the adult and juvenile justice systems while understanding their ramifications; (7) develop alternatives in incarceration; (8) know the conflicting theories and ideologies of treatment and prevention; (9) identify the need for professional personnel and their respective manpower requirements; (10) develop the necessary attitude, empathy and knowledge to assist in working in and with the juvenile justice system. (5-0) 5

CSC 3514 Contemporary Correctional Institutions: Upon completion of this course the student should be able to: (1) discuss concepts and standards in the development of modern correctional institutions; (2) understand and discuss the differentiation of adult and juvenile systems and the difference between the two; (3) discuss organizations, administration and manpower needs within correctional programs (State and Federal); (4) implement the aspects of offender classification; (5) evaluate community based correctional operations; (6) understand the role of volunteers in corrections. Prerequisite: CSC 3500. (5-0) 5

CSC 3524 Probation/Parole: Upon completion of this course the student should be able to (1) discuss the origins of probation from common law through the present statutes; (2) discuss the legal rights of prisoners in all aspects; (3) understand how ordinary political or civil rights may be taken away as a result of criminal conviction and how they may be restored; (4) understand parole revocation procedures from arrest, to hearing, through judicial review; (5) discuss the types and kinds of conditions of probation; (6) discuss group treatment programs; (7) understand the various community resources available for the probationer and parole. Prerequisite: CSC 3500. (5-0) 5

CSC 4505 Corrections/Rights and Sanctions: This course is an in-depth analysis of laws and court decisions that affect Correctional Staff and Prisoners. Exploration of the responsibilities of Correctional Officers, Correctional Supervisors, Correctional Jails, and Prisoners. Special emphasis will be placed on laws and recent Supreme Court decisions affecting treatment of inmates and various agency responsibilities. Prerequisite: CSC 3500. (5-0) 5

CSC 4514 Corrections/Community Based Programs: Upon completion of this course the student should be able to: (1) develop a concept (at least one page) of integration and acceptance of community programs within corrections/community based programs; (2) develop methods of identifying and coordinating community resources; (3) develop methods of identifying and coordinating community responsibilities; (4) develop and coordinate inmate involvement in community programs; (5) conduct indepth study of alternatives to incarceration. Prerequisite: CSC 3500. (5-0) 5

Dental Assisting

DEA 5204 Dental Assistant Seminar: A study of personal responsibilities as a practitioner, including employee-employer relations, opportunities for continued development as a person and as a member of the dental health team, and evaluation of clinical experience. Prerequisite: Fourth quarter standing in Dental Assisting Curriculum. Co-requisite: DEA 5845. (2-0-0) 2

DEA 5300 Anatomy and Physiology: Upon completion of this course the student should be able to: (1) recognize and recall facts and specifics regarding general anatomy of the body and basic concepts of the normal functions of body systems; (2) utilize knowledge and understanding of the basic structure surrounding the teeth; (3) designate formation of primary and permanent dentition, basic anatomy of individual teeth and the application of these to the carving of restorative patterns. Co-requisite: DEA 5304 and DEA 5600. (3-0-0) 3

DEA 5302 Introduction To Dental Assisting: Upon successful completion of this course the student should: (1) know the purpose, history and progress of dentistry; (2) understand and begin to abide by laws and ethics governing the dental profession; (3) identify members of dental health team, their education, training, function and respective professional conduct, personal hygiene and dental terminology; (5) be able to operate equipment in dental clinic; (6) be able to receive, prepare for operation, and dismiss patients properly. Co-requisite: DEA 5600 and DEA 5304. (2-0-3) 3

DEA 5304 Preclinical Science I: Upon completion of this course the student should be able to: (1) demonstrate how bacteriology and dental health are related; (2) designate techniques for successful coping with the bacteriological problems which arise in the dental office; (3) use knowledge of diet and nutrition as applied to dentistry. Co-requisite: DEA 5302 and DEA 5300. (3-0-0) 3

DEA 5305 Preclinical Science II: Upon completion of this course the student should be able to: (1) recognize and explain fundamental concepts of the more common diseases and disease processes in the oral cavity; (2) state dosage, methods of administration and storage of common drugs and medicaments used in the dental office; (3) perform dental first aid and emergency care for the patient in the dental office. Prerequisite: DEA 5300 and DEA 5304. (3-0-0) 3

DEA 5344 Dental Office Practice I: An introduction to practice in the dental office and clinic as a chairside and coordinating assistant. Upon successful completion of this course the student should be able to: (1) perform at second level of proficiency at chairside with dentist and patient in all dental procedures offered at the school clinic; (2) demonstrate the ability to apply classroom theory in the dental clinic in the areas of schedule management anticipation, operator preparation, radiology, instrument management, sterilization, supply management, laboratory procedures and maintenance as coordinating assistant. Prerequisite: Third quarter standing in the Dental Assisting Curriculum. (0-0-9) 3

DEA 5390 Individual Study: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Department Head is required. (3-0) 3

DEA 5414 Dental Roentgenology: Upon completion of this course the student should (1) know the rationale and utilize methods for protecting the patient and operator from ionizing radiation and the principles involved in the production of x-rays; (2) correctly identify parts of the dental x-ray unit and discuss the function of these parts; (3) be able to prepare a diagnostically acceptable series of dental x-rays using a variety of intraoral techniques; (4) correctly identify and be familiar with extraoral techniques for: Panorex, cephalometric (head plate), lateral jaw, impacted third molars; (5) be able to identify various processing equipment, correctly process films using darkroom facilities; (6) correctly identify the anatomical landmarks which may be seen on individual films from a full series of radiographs, select appropriate film mounts and correctly mount a full series of radiographs; (7) recognize errors in film placement, exposure, and processing and be able to correct them. Prerequisite: DEA 5300 and DEA 5600. (2-0-6) 4

DEA 5424 Clinical Procedures I: Upon successful completion of this course the student should be able to: (1) identify and effectively handle various types of dental equipment and instruments in general dentistry; (2) perform at second level of proficiency in patient preparation and dismissal including post-operative instructions; (3) demonstrate first level of proficiency at chairside with dentist and patient in oral evacuation, passing and receiving instruments from prepared tray, and preparation and delivery of dental materials needed for given operation. Prerequisite: DEA 5300, DEA 5302, DEA 5600, DEA 5304. Co-requisite: DEA 5414. (2-0-6) 4

DEA 5525 Clinical Procedures II: This continuation of DEA 5424 deals with the eight specialties of dentistry in order that the student may adapt to work situations in these areas. Upon completion of this course the student should: (1) be able to identify and effectively handle various types of dental equipment and instruments in the dental specialties; (2) have demonstrated the ability to assist in limited pedo, perio, endo and oral surgery procedures in the school clinic. Prerequisite: Third quarter standing in the Dental Assisting Curriculum. (4-0-3) 5

DEA 5534 Dental Office Management: The student in this course will be exposed to the principles and procedures related to managing a dental office. Upon completion of this course the student should be able to: (1) manage dental office inventory and supply; (2) keep financial and clinical records; (3) effectively utilize cavity classification and nomenclature; (4) demonstrate effective telephone technique; (5) maintain appointment book control. Prerequisite: Third quarter standing in the Dental Assisting Curriculum. (4-0-3) 5

DEA 5600 Dental Materials: Upon completion of the course the student will be able to demonstrate a knowledge of the theory of intra and extra oral materials on written examination. The student will also demonstrate a sufficient level of skill in the laboratory and clinical application of those more routinely used materials. Through the integration of lecture and laboratory experience the student will be able to properly select and manipulate materials for a given procedure. Co-requisite: DEA 5300 and DEA 5302. (3-9-0) 6

DEA 5845 Dental Office Practice II: Continuation of DEA 5344 with same objectives for the student to be performed at third level of proficiency through assignments rotated to encompass experience in office management, dental office laboratory procedures, specialty offices, in private practice, hospital dental clinic and the school clinic. Prerequisite: Fourth Quarter standing in Dental Assisting Curriculum. Co-requisite: DEA 5204. (0-0-24) 8

Dental Hygiene

DEN 3224 Head and Neck Anatomy: The student should know the bones of the skull, their location and landmarks. In addition, the knowledge of the muscles, their blood and nerve supply will be required of and demonstrated by the student. Prerequisite: DEN 3405. (2-0-0) 2

DEN 3314 Preventive Dentistry I: On completion of Preventive Dentistry I, the student should be able to: understand the dental needs of individual patients and to provide a basic outline of principles and techniques for certain phases of dental hygiene care and instruction; describe the composition and etiological factors governing a variety of dental deposits, such as stain, dental plaque, dental calculus and materia alba; student will gain a basic knowledge of the decay process and the progress of gingivitis and periodontal disease. The student will apply principles governing the use of various toothbrushing techniques and auxiliary and plaque control methods when presented with hypothetical situations; gain basic knowledge of the following: the history of dental hygiene and the professional association; and the duties of a dental hygienist in patient education and prevention of dental diseases. (3-0-0) 3

DEN 3404 Dental Anatomy I: Upon completion of the subject the student should recall specific anatomical structures of the dentition and will carve or draw to scale any anterior tooth. The student will also demonstrate a familiarity with dental terminology, a knowledge of gross oral anatomy, and a collection of the eruption succession of the teeth. (1-6-0) 5

DEN 3405 Dental Anatomy II: A continuation of Dental Anatomy I. The successful student will be able to draw and carve any tooth in the permanent or deciduous dentition. The student will exhibit an awareness of comparative morphology of the teeth including root formation. In addition the student will demonstrate the ability to chart and record oral conditions of the human dentition and the ability to classify occlusion. Prerequisite: DEN 3404. (1-6-0) 4

DEN 3524 Dental Hygiene I: Through practice on manikins and eventually upon each other, the student will demonstrate the ability to record, plan and execute a dental prophylaxis maintaining aseptic conditions without traumatizing hard and soft tissues. A familiarity with the instruments and their use is required. Prerequisite: DEN 3314 and DEN 3405. (2-6-0) 5

DEN 4104 Clinical Theory I: Through lecture, demonstration and practice in the clinic, the dental hygiene student will demonstrate familiarity with use of the ultrasonic scaler, methods of plaque control instruction, principles of root planing, and the techniques of amalgam polishing. Students will be required to demonstrate dental hygiene assisting skills. Interesting case histories from clinical experience will be presented by each student. Prerequisite: DEN 3405. (1-0-0) 1

DEN 4105 Clinical Theory II: A continuation of DEN 4104 with an emphasis on restorative dentistry procedures. The student will be familiar with common procedures and restorative techniques generally carried out in a general dental practice. The student will demonstrate applications of principles and theories as learned in the classroom for their clinical patients, when applicable. Each student will be required to present interesting case histories to the class for discussion. Prerequisite: DEN 4104. (1-0-0) 1

DEN 4106 Clinical Theory III: Upon completion of this course, the student will be able to prepare a curriculum vitae. The student will be familiar with employment interview techniques. Students through discussions and field trips will become familiar with the procedures used during state licensure examinations. Through lectures from guest specialists, the student will become familiar with various dental specialties. Prerequisite: DEN 4105. (1-0-0) 1

DEN 4114 Periodontics: Upon completion of this course the student will be able to differentiate between normal and abnormal periodontal conditions and clinically perform the less sophisticated treatment. In addition, the student will educate patients in the prevention and control of periodontal disease. The student will become familiar with periodontal treatment techniques carried out by the periodontist. Prerequisite: DEN 4425. (1-0-0) 1

DEN 4200 Office Emergencies: Upon completion of this course the student will be able to detect, prevent or administer to the needs of the patient who presents an emergency condition. Prerequisite: BIO 1505. (2-0-0) 2

DEN 4204 Pharmacology: Students will demonstrate a knowledge of pharmacological nomenclature and terms, sources of drugs, fundamental types of pharmacologic action, patient reaction to drugs and treatment of adverse reactions. Types and classes of drugs will be enumerated. The student will write a general outline for a prescription and indicate a knowledge of the laws dealing with drugs. (2-0-0) 2

DEN 4214 Practice Administration: The student will be required to exhibit proficiency in the basic procedures and forms utilized in the dental office in regard to the utilization of time, money, personnel, space, equipment and supplies. In addition, the student will know the code of ethics and the jurisprudence pertaining to dentistry. (2-0-0) 2

DEN 4231 General Pathology: The student will become familiar with the general principles of pathology. Student will have a general knowledge of the inflammatory response, types of necrosis, stages of healing, and systemic disease affecting the oral cavity. Prerequisite: BIO 1505. (2-0-0) 2

DEN 4301 Dental Radiology: The student will know the theory and basic fundamentals in the production of x-rays. The student will be held responsible to know the safety precautions to be utilized and the legal implications involved in radiologic exposure. The successful student will be adept in taking radiographs first on manikins, next on each other and finally on clinical patients. The student will recognize and distinguish between good and bad radiographic techniques. Prerequisite: DEN 3524. (2-3-0) 4

DEN 4304 Embryology and Oral Histology: The student will be able to describe the embryological development of the head and neck with specific emphasis placed upon oral structures such as teeth, glands, tongue, etc. Recognition of oral defects including dental defects due to irregular development and their clinical significance will be evaluated by the student. Student will gain microscopic and histologic knowledge of dental and oral structures. The student is encouraged to relate the knowledge gained from this subject with the clinical patient. Prerequisite: BIO 1505. (3-0-0) 3

DEN 4315 Preventive Dentistry II: Upon completion of this course the student will be able to: explain a variety of personality types and adapt a good program for teaching effective patient education to individual personality traits; develop effective teaching aids for patient education which are adapted to a variety of age groups. The aids the student must develop are as follows: posters, bulletin boards, table clinics and flannel boards. Students teach patient education to special groups such as public kindergartens, schools and civic organizations and adapt their programs to accommodate the age levels. Prerequisite: DEN 3314 (3-0-0) 3

DEN 4316 Preventive Dentistry III: Successful conclusion of this subject insures that an overall ability will be evidenced by the student to survey population groups by the use of various indices to determine types of people, needs, motivational and educational needs; the student will compare private and public health vocations, he/she will demonstrate an awareness of community health problems and the structure of the public health system within the state. Prerequisite: DEN 4315. (3-0-0) 3

DEN 4332 Oral Pathology: Upon completion of this course the student will be able to differentiate between pathologic and non-pathologic conditions appearing in the oral cavity and surrounding region. Prerequisite DEN 4231. (3-0-0) 3

DEN 4390 Individual Study: This is the subject geared to the individual needs of the student and may encompass any review material or refresher material to assist in the successful completion of the National or the state board examinations. (3-0-0) 3

DEN 4425 Dental Hygiene II: The student will accomplish a complete satisfactory dental prophylaxis on a number of selected child and adult clinical patients. A home care program for the individual patient will be developed along with accurate periodontal and dental charting. The ability to sharpen instruments will be developed. Prerequisite: DEN 3504. (1-0-9) 4

DEN 4426 Dental Hygiene III: The student daily performs a complete prophylaxis on adults including root planing, homecare, charting and necessary radiographs. Proficiency is required in the use of ultrasonic scaling devices, the polishing of restorations and motivating the patient to proper home care. The student will acquire minor dental assistant capability. Week-long assignments to dental clinics of various hospitals will be mandatory. Prerequisite: DEN 4425. (0-0-12) 4

DEN 4500 Dental Materials: Upon completion of this course the student must know the composition and properties of materials employed in dentistry and their behavior under different treatments. The student must be able to mix various materials to be used by the dentist. The student must evidence a knowledge of the proper storage of dental materials. Student will be able to successfully pour up and trim study models. Many of these attainments are met by extensive use of the laboratory. (3-4-0) 5

DEN 4527 Dental Hygiene IV: The student will continue to gain experience in providing patients with dental hygiene care. The student will provide nutritional counseling, will remove non-functioning over-hanging restorations, and polish amalgam restorations. The student will continue to visit extramural clinics. Prerequisite: DEN 4426. (0-0-15) 5

DEN 4628 Dental Hygiene V: The student will develop speed and efficiency in accomplishing a dental prophylaxis to prepare for entrance into the work market. The student will make office visits to become acquainted with the variety of methods of patient care and services available in different types of practices. The student will also observe the care provided by the dental hygienist in various dental practices. Prerequisite: DEN 4527. (0-0-18) 6

Mechanical Drafting

DFT 3300 Advertising Drafting: Upon completion of this course the student should be able to: (1) use drafting equipment to lay out simple geometric construction; (2) letter words and numbers with standard lettering; (3) lay out a typical title page; (4) draw elementary orthographic drawings; (5) produce simple ink drawings. (2-4) 3

DFT 3400 Electrical-Electronics Drafting: Upon completion of this course the student should be able to: (1) use drafting equipment to lay out simple geometric construction; (2) letter words and numbers; (3) draw and dimension elementary orthographic drawings; (4) prepare from a rough circuit sketch the following simple electrical and electronic drawings: a. electrical schematic, b. wiring diagram, c. electronic schematic, d. printed circuit layout, e. component layout for printed circuit and, f. ladder diagram. (2-6) 4

DFT 3404 Mechanical Drafting I: Upon completion of this course the student should be able to: (1) use drafting equipment and instruments; (2) letter words and numbers in Gothic; (3) draw orthographic and pictorial freehand sketches; (4) layout geometric constructions; (5) execute orthographic drawings by use of instruments; (6) dimension drawings and apply notes to drawings; (7) reproduce, file, and store drawings; and (8) execute simple "working" drawings. (2-6) 4

DFT 3405 Mechanical Drafting II: Upon completion of this course the student should be able to: (1) apply orthographic projection principles to more complex drafting problems, including those with various kinds of holes; (2) read and draw the conventions of line elimination and revolving out of position; (3) read, draw, and dimension the various kinds of sectional views; and (4) read, draw, and dimension auxiliary views. Prerequisite: DFT 3404. (2-6) 4

DFT 3406 Descriptive Geometry: Upon completion of this course the student should be able to: (1) analyze and solve, graphically, space problems which involve points, lines and planes; (2) verify solutions to problems analytically when appropriate; (3) relate these problems in engineering design; and (4) visualize the field problem which is shown on paper. Prerequisite: DFT 3405. (2-6) 4

DFT 3507 Mechanical Drafting III: Upon completion of this course the student should be able to: (1) visualize, draw, and dimension machine element details such as (a) threads, fasteners, and springs; (b) gears and gearing; (c) cams and cam followers; and (d) other common machine elements; (2) form mental images of three-dimensional objects from standard blueprints and make clay models from them; and (3) produce basic weldment drawings. Prerequisite: DFT 3405. (2-9) 5

DFT 3508 Mechanical Drafting IV: Upon completion of this course the student should be able to: (1) draw and dimension: (a) outline assemblies; (b) working assemblies; and (c) sub-assemblies; and (2) produce simple piping drawings. Prerequisite: DFT 3507. (2-9) 5

DFT 4300 Mechanical Blueprint Reading: Upon completion of this course the student should be able to: (1) visualize a three-dimensional object; (2) relate the shape and size correctly and accurately to a pictured object; (3) read and understand drawing conventions, symbols, and notations; (4) interpret the proper operations and shop procedures needed to produce objects shown on simple prints. (3-0) 3

DFT 4.94 Independent Study: This course is designed to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member. Approval of the sponsor and Program Director is required prior to enrollment. (1-5 Credits)

Drama

DRA 1300 Introduction To Drama: Upon successful completion of this course, the student will have developed skills in analyzing the nature of the theater and the nature of drama, will demonstrate mastery of the principles of play analysis and an understanding of the fundamentals of technical production. (3-0) 3

DRA 1301 Stagecraft: Upon successful completion of this course, students will have a working knowledge of theatre buildings and their equipment, working drawings, and scene shop organization. They will have had practice in scenery construction and painting. Participation on technical crews of the college theater productions required. (1-4) 3

DRA 1302 Scene Design: Upon successful completion of this course, the student will have researched and developed scene designs for a variety of presentation styles and theater stages and will demonstrate an understanding of current design practices. (1-4) 3

DRA 1303 Acting: Upon successful completion of this course, the student will have acquired practice in developing and controlling the voice, body, and emotions as instruments of expression. The student will be encouraged to free and use imaginative resources and critical faculties through controlled practice. (1-4) 3

DRA 1304 Advanced Acting: A continuation of DRA 1303. Upon successful completion of this course, the student will demonstrate an understanding of more advanced acting theories with special attention given to verse drama, musical theater, and specialized stage movement and exercises. Prerequisite: DRA 1303 or consent of instructor. (1-4) 3

DRA 1310 Play Production — One Acts: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of one-act plays. The laboratory consists of the rehearsing and performing one-act plays. (0-12) 3

DRA 1311 Play Production — Comedy/Drama: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of a full-length comedy or drama. The laboratory consists of the rehearsing and performing of full-scale production of a comedy or drama. (0-12) 3

DRA 1312 Play Production — Musical: Upon successful completion of this course, the student will demonstrate an understanding of the basic practices and principles governing the staging of musicals. The laboratory consists of rehearsing and performing a full-scale production of a musical. (0-12) 3

DRA 2204 Special Problems In Drama: An advanced problems course of guided studies involving laboratory and library work. Prerequisite: Approval of instructor. (1-3) 2

DRA 2304 Directing: Upon successful completion of this course, the student will demonstrate a knowledge of the theories related to directing a stage production and will have directed scenes for evaluation. (1-4) 3

DRA 2311 Advanced Play Production Comedy/Drama: Upon successful completion of this course, the student will have mastered processes of script analysis, role playing of major proportions and extended rehearsal and performance. Special attention is given to each participant mapping out and completing a strategy for successful final performance before an audience. (0-12) 3

DRA 2312 Advanced Play Production Musical: Upon successful completion of this course, the student will have demonstrated a thorough knowledge of script analysis, character building, and extended performance of a musical production. Special attention is given to each participant mapping out and completing a strategy for successful performance before an audience. (0-12) 3

DRA 2414 Film Criticism: Through discussions and film screenings, the student should be able to develop a critical appreciation for the elements of film and should be able to formulate a critical response to the film medium in writing and in conversation, demonstrating an intelligent reaction to any film. (3-2) 4

Drug Administration — Nursing

DRG 9502 Basic Calculations For Drug Administration: A beginning or refresher course for students who will enter ALL Health curriculums. Metric system, Apothecaries system, household system, tablet dosages, solutions, temperature conversion and insulin dosages are the units available for study. Any student may enroll for DRG 9502. There are no prerequisites. DRG 9502 is a free course and books are available in the library or in the bookstore. (5-0) 5

Diesel Mechanics

DSL 5203 Basic Automotive Diesel Engines: Upon completion of this course the student should be able to: (1) demonstrate an understanding of the diesel engine operating cycle; (2) service an engine's lubrication system; (3) service an engine's cooling system; (4) service an engine's fuel system; (5) demonstrate a basic understanding of a distributor type diesel fuel injection pump; (6) demonstrate a basic understanding of a fuel system's mechanical governor; (7) make minor engine adjustments including fan and generator belts, cam and pump drive belts, valve lash, curb idle and injection pump to engine timing. (1-3) 2

DSL 5300 Diesel Fundamentals: Upon completion of this course the student should be able to: (1) recognize the advantages of supercharging and aftercooling as it affects basic engine design and performance; (2) recognize the advantages of direct and indirect fuel injection; (3) demonstrate a basic knowledge of four types of fuel injection metering systems; (4) recognize the advantages of mechanical and hydraulic, limiting speed and variable speed engine governors; (5) demonstrate the use of basic measuring instruments to determine engine component serviceability; (6) demonstrate proper use of a nozzle tester; (7) perform basic operations on and maintenance of pump calibration stand. (2-3) 3

DSL 5304 Hydraulics and Pneumatics: Upon completion of this course the student should be able to: (1) identify basic hydraulic components from a diagram drawn with standard hydraulic symbols; (2) demonstrate a knowledge of vane, gear and piston pumps and motors; (3) demonstrate a knowledge of pressure, flow and directional control valves; (4) compute the volume and speed of cylinders; (5) test the performance of a gear type fuel supply pump; (6) demonstrate a knowledge of hydraulic terms; (7) demonstrate a knowledge of tubing and fittings, hose and couplings; (8) demonstrate a knowledge of air compressors and air governors; (9) identify basic components of a compressed air system. (2-2) 3

DSL 5308 Air Brakes: Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of the operation of various components of the air brake system; (2) install repair kits in system control valves; (3) demonstrate knowledge of proper preventive maintenance procedures; (4) repair wheel units including lining, drum, and brake chamber diaphragm replacement; (5) repair cam and wedge type actuators; (6) use test procedures to locate system problems. (2-2) 3

DSL 5314 Caterpillar Diesels: Upon completion of this course, the student should be able to: (1) disassemble a typical Caterpillar diesel engine; (2) obtain engine specifications using Caterpillar service manuals; (3) determine serviceability of engine components; (4) write up a parts order using Caterpillar parts book; (5) assemble a typical Caterpillar diesel engine to manufacturer's specifications; (6) install and time injection pump to engine; (7) and make preliminary adjustments, crank and run engine. (1-6) 3

DSL 5315 Cummins Diesels: Upon completion of this course, the student should be able to: (1) disassemble a typical Cummins diesel engine; (2) obtain engine specifications using Cummins service manual; (3) determine serviceability of engine components; (4) write up a parts order using a Cummins parts book; (5) assemble a typical Cummins diesel engine to manufacturer's specifications; (6) run overhead by the torque or dial indicator method; (7) and crank and run engine. (1-6) 3

DSL 5316 Detroit 2 Stroke Cycle Engines: Upon completion of this course the student should be able to: (1) disassemble a typical Detroit diesel engine; (2) obtain engine specifications using Detroit service manuals; (3) determine serviceability of engine components; (4) write up a parts order using Detroit parts book; (5) assemble a typical Detroit diesel engine to manufacturer's specifications; (6) make preliminary engine adjustments; (7) crank and run engine; (8) and make final tuneup adjustments. (1-6) 3

DSL 5317 Mack Diesels: Upon completion of this course the student should be able to: (1) disassemble a typical Mack diesel engine; (2) obtain engine specifications using Mack service manuals; (3) determine serviceability of engine components; (4) write up a parts order using Mack parts book; (5) assemble a typical Mack diesel engine to manufacturer's specifications; (6) install and flow time fuel injection pump to engine; (7) make preliminary tune-up; (8) crank and run engine. (1-6) 3

DSL 5318 Diesel Tune-Up and Troubleshooting: Upon completion of this course, the student should be able to: (1) demonstrate a knowledge of the effects each engine system has on other engine systems; (2) make test gauge connections to check 4-stroke cycle and 2-stroke cycle engine systems; (3) make complete tune-up on operational 4-stroke cycle diesel engines; (4) make complete tune-up on operational 2-stroke cycle diesel engines; (5) make proper connections to mount engine to dynamometer; (6) make test run using dynamometer to check engine performance; (7) use troubleshooting techniques to locate system problems on operational 2-stroke and 4-stroke cycle diesels. (1-6) 3

DSL 5319 Fuel Injection Systems I: Upon completion of this course the student should be able to: (1) test the components of a typical gasoline fuel injection system; (2) test and service fuel injection nozzles; (3) demonstrate a knowledge of the Detroit unit injector; (4) install and time a set of Detroit injectors in a live engine; (5) demonstrate a knowledge of the Cummins injector; (6) install and adjust a set of Cummins injectors in a live engine. (2-3) 3

DSL 5320 Fuel Injection Systems II: Upon completion of this course the student should be able to: (1) demonstrate a knowledge of the Cummins PT Fuel system; (2) test rail pressure, test and set high and low idle; (3) demonstrate knowledge of the Caterpillar fuel system; (4) demonstrate knowledge of the American Bosch and Robert Bosch Fuel Systems; (5) test fuel setting, and set high and low idle on American Bosch and Robert Bosch Fuel Systems. (2-3) 3

DSL 5400 Heavy Duty Transmission Repair: Upon completion of this course the student should be able to: (1) assemble a heavy duty 5-speed transmission; (2) install a bearing and light overhaul kit in a multirange 10 or 13-speed twin-countershaft transmission; (3) assemble to manufacturer's specifications a heavy duty automatic transmission; (4) demonstrate an understanding of the operation of air valves and shift cylinders on multirange transmissions. (2-6) 4

DSL 5421 Automotive Diesel Engines: Upon completion of this course the student should have: (1) demonstrated an understanding of the operation and construction of diesel engines used in current production automobiles and light trucks; (2) developed competencies in the service tasks required in disassembly, inspection, and reassembly of diesel engines and related components; and (3) developed competencies in the tasks required for diagnosis and service of diesel engine systems. Prerequisite: AUT 5401, AUT 5402, DSL 5300. (2-6) 4

Economics

ECO 2304 Economics I (Macro): Upon successful completion of the course the student should be able to apply economic concepts to basic and current national problems; trace the development of economic philosophies as they relate to traditional, command, and market economics; evaluate the role of federal programs in the areas of GNP, monetary and fiscal policy, and business cycles; demonstrate ability to use primary sources in understanding economic problems. (3-0) 3

ECO 2305 Economics II (Micro): Upon successful completion of the course the student should be able to describe and apply the theory of our pricing system to the competitive firm as well as to those business organizations in imperfect competition. (3-0) 3

ECO 2306 Economics III: Upon successful completion of the course the student should be able to apply an economic approach to temporary problems and issues in such areas as growing world population and rising consumption, how each of these relates to such items as world trade, ecology, comparative economic systems and current issues. (3-0) 3

ECO 3300 Introduction To Economics: Upon successful completion of this course the student should have a working knowledge of the nature and methods of economics, demonstrate an understanding of macro and micro economics, explain the working of international trade and finance, and compare different economic systems. (3-0) 3

ECO 3301 American Economic History: Upon successful completion of the course the student should be able to discuss the concepts which have contributed to the nation's economic productivity from Colonial times to the present, detailing those areas which have facilitated the nation's growth in transportation, trade and finance. (3-0) 3

ECO 3302 Labor Economics: Upon successful completion of the course the student should be able to trace the historical growth of labor unions and describe the theories of labor and the development of effective labor and wage policies. The discussion method will be used in studying current labor questions and the problems arising from the working environment. (3-0) 3

Interior Design

EDN 4200 Interior Decoration For The Home Owner: The student, upon completion of this course, should be able to plan a personal home interior emphasizing the following areas: convenience, comfort and beauty, furniture and furnishings arrangement. (1-2) 2

EDN 4201 Color Schemes For Interior Design: The student will work from home plans in solving everyday color problems. The emotional, thermal and optical effects of color arrangements for interiors will be studied. The student should be able to plan and develop a color scheme for an interior, working with existing colors or working out a completely new color scheme. (1-2) 2

EDN 4202 Thesis: The student will plan and execute, with the help and approval of the curriculum advisor, a project reflecting original concepts relating to the student's interests and field of specialization. The project will integrate experience in the program and will reflect conditions the student will encounter upon employment. The student will also prepare a portfolio. Prerequisite: EDN 4415. (0-4) 2

EDN 4203 Period Furniture And Furnishings: The student will study period styles in chronological order from Egyptian through American furniture and furnishings and will learn to recognize the influence of these styles. The student should be able to identify the major period styles currently popular today. (2-0) 2

EDN 4210 Antique Furniture And Furnishings: The student will study antique furniture and furnishings and will explore their use in contemporary interiors. The student will be exposed to antiques from a consumer's point of view and will develop basic evaluating skills that can be used to determine a personal value of antiques in general. (2-0) 2

EDN 4300 Survey Of Interior Design: The student will acquire a general understanding of the nature and scope of interior design as a profession, contrasting and comparing different specializations within the field of interior design. (3-0) 3

EDN 4301 Practical Problems In Interior Design I: The student will become acquainted with problems the interior designer confronts today and should be able to make complete presentations similar to those submitted by an interior designer to a client. Prerequisite: EDN 4200. (2-2) 3

EDN 4307 Survey Of Materials: The student will survey natural and man-made fibers and materials currently available and should be able to select the proper material for a specific application using the following criteria: overall quality, price, durability, color, and material from which the product is constructed. Materials covered: rugs and carpets, furniture, ceramic tile, paint, wallpaper and wall coverings, hardware, textile products, glass, and building materials. Prerequisite: EDN 4414. (1-4) 3

EDN 4314 Survey Of Painting, Sculpture And Interior Design I: The student will survey art history including painting, sculpture, and interior design. The student will be able to define and compare the major areas of art from classical periods to the Twentieth Century. (3-0) 3

EDN 4315 Survey Of Painting, Sculpture And Interior Design II: The student will continue to study the major areas of art and will learn to recognize major art movements and interpret their influence on interior design. Prerequisite: EDN 4314. (3-0) 3

EDN 4400 Professional Practices And Procedures: The student will study current business practices in the field of interior design. Upon completion of this course, the student should be able to write and design an initial contract form, a letter of agreement, prepare a purchase order, figure wholesale discounts, and do simple job estimating. Prerequisite: EDN 4415. (2-4) 4

EDN 4404 Interior Presentation: The student will develop technical skill in applying elements that comprise the interior environment: fabric, furniture, rock, masonry, foliage, etc. The student will make presentations of designs in simulated designer-clientele relationships and should be able to construct and present simple interior design projects in a professional manner, preparing fabric and material collages and room layouts in ink and color. Prerequisite: ARC 3434, ART 1326. (2-4) 4

EDN 4406 Contemporary Interiors: The student will study current techniques in designing interiors for commercial and industrial buildings and will learn to recognize and anticipate changing needs. The student should be able to analyze and make recommendation concerning interior design solutions befitting Twentieth Century contract interiors. Prerequisite: EDN 4415, ARC 3304. (2-4) 4

EDN 4414 Applied Problems Studio I: The student will explore fundamentals of interior design, space planning, convenience, function, and visual effects and will complete planned problems to achieve workable and practical solutions to current needs for the single dwelling. The student will prepare graphic solutions in two and three dimensional form. Prerequisite: ARC 3303, ARX 3434, ART 1326. (2-4) 4

EDN 4415 Applied Problems Studio II: The student will apply knowledge and skills from EDN 4414 to advanced solutions to special space problems, preparing presentations and complete specifications. Prerequisite: EDN 4414, ARC 3304. (2-4) 4

EDN 4416 Applied Problems Studio III: The student will investigate, plan, and execute interior designs for a cross-section of current interiors and should be able to solve actual complex interior design problems including accurate specifications and construction details. Prerequisite: EDN 4415, ARC 3304. (2-4) 4

Computer Science

EDP 1404 Computer Concepts And FORTRAN Programming I: Upon completion of this course the student should be able to: (1) define selected terms pertaining to computer systems and programming; (2) write programs in the FORTRAN language that: (a) read and write with and without formatting, (b) perform arithmetic calculations, (c) use control logic, (d) generate reports with headings and totals, (e) perform operations with one dimensional arrays; (3) prepare data for testing a FORTRAN program. (3-2) 4

EDP 1405 FORTRAN Programming II: A continuation of EDP 1404. Upon completion of this course the student should be able to write FORTRAN programs for problem solutions requiring: (1) two dimensional arrays; (2) functions and subroutines; (3) alphabetic data; (4) input/output for tape and disk files; (5) logical operations and output. Prerequisite: EDP 1404 and MAT 1504, MAT 1514, or MAT 3504, or Departmental consent. (3-2) 4

EDP 2306 Computer Programming I (Business): Upon completion of this course the student should be able to: (1) construct basic COBOL programs to solve sample business problems; (2) verify the accuracy of program output; (3) construct basic flowcharts; (4) identify business problems which can be solved with a computer. Prerequisite: EDP 3300 or Departmental consent. (2-2) 3

EDP 2307 Computer Programming II (Business): A continuation of EDP 2306. Upon completion of this course the student should be able to: (1) develop program logic and write COBOL programs for solving sample business problems; (2) utilize utility programs to manipulate data files; (3) incorporate programming techniques and procedures for magnetic tape and disk processing. Prerequisite: EDP 2306. (2-2) 3

EDP 2308 Computer Systems And Assembly Language I: Upon completion of this course a student should be able to: (1) translate from one numbering system to another and perform arithmetic in various numbering systems; (2) describe computer storage representation and addresses for decimal and alphabetic fields; (3) write simple programs using declare, arithmetic, data transfer, compare, branch, and I/O assembly language instructions; (4) identify I/O device storage characteristics and file organizations capabilities; (5) trace the data flow through a computer system identifying hardware functions and characteristics encountered from input to output. Prerequisite: EDP 1404 or EDP 2306. (2-2) 3

EDP 2309 Computer Systems And Assembly Language II: A continuation of EDP 2308. Upon completion of this course a student should be able to: (1) write basic programs using declare, arithmetic, data transfer, compare, branch, table storage and I/O assembly language instructions; (2) trace the compilation and execution of a job through a multiprogramming computer system environment and name software programs involved; (3) code JCL statements necessary to execute assembly language programs using sequential files and certain file utilities; (4) define an operating system, listing its advantages. Prerequisite: EDP 2308. (2-2) 3

EDP 2514 Statistical And Numerical Programming: Upon completion of this course the student should be able to write a program to do: (1) the inverse of a Matrix in solving a set of simultaneous equations; (2) Newton's forward interpolation; (3) numerical integration (4) simplex method; (5) two-way analysis of variance; (6) series expansion. Prerequisite: EDP 1405 and MAT 2504. (4-2) 5

EDP 3300 Introduction To Computer Concepts: Upon completion of this course the student should be able to: (1) trace the history of computers; (2) identify the basic steps in solving a data processing problem by tracing the flow of data through a computer system; (3) list and define the functional units of a computer; (4) at an introductory level identify the basic processes in programming; (5) list the job descriptions and qualifications of computer personnel; (6) describe devices and basic procedures in file handling for batch processing systems; (7) identify different programming languages and their usual applications; (8) from the systems analysis point of view, relate problem definition and project analysis, system design, and system development and implementation; (9) identify the characteristics of online systems, such as I/O function, data transmission, file access and response time; (10) identify the efficiency concepts of computers as related to multi-programming and multi-processing; (11) identify sources of computing hardware, software, and services; (12) trace the sequence of purchasing or leasing hardware and software; (13) identify various computer usage; (14) state some of the impacts of computer technology on individuals and the community; (15) define selected terms relating to computer hardware and software. (3-0) 3

EDP 3405 Microcomputer Programming — BASIC: Upon completion of this course the student should be able to: (1) define selected terms pertaining to Microcomputer Systems and Programming; (2) list the hardware devices in typical Microcomputer Systems; (3) write programs in the BASIC language that (a) read/write/calculate (b) use control logic (c) generate reports with headings and summary totals (d) perform operations with arrays; (4) prepare sample data to test a BASIC program; (5) define and explain the purpose of an operating/monitor/executive system; (6) write programs in an interactive environment under control of an editor. (3-2) 4

EDP 3406 Microcomputer Programming — Advanced BASIC: Upon completion of this course the student should be able to: (1) write programs to create/access/update data files on cassettes and disk; (2) use one and two dimensional array processing; (3) use selected functions available in BASIC and write user defined functions and subroutines; (4) use string functions; (5) write programs for reports using designated print formats with headers, edited output, and summary totals for screen and printer output. Prerequisite: EDP 3405. (3-2) 4

EDP 3407 Programming Business Applications For Microcomputers: Upon completion of this course the student should be able to: (1) prepare input, output, and file formats; (2) design and write programs in BASIC for selected accounting/business applications; (3) code and/or explain techniques or routines used in computerizing a business application such as data editing, sorting, merging, multileveled control breaks, calculation of days between dates, and file processing; (4) prepare and interpret documentation for selected accounting/business applications. Prerequisite: EDP 3405 and EDP 3406. (3-2) 4

EDP 3440 Assembly Language: Upon completion of this course the student should be able to: (1) perform arithmetic operations in the hexadecimal and binary numbering system; (2) code selected assembly language statements; (3) interrupt machine language instructions and read hexadecimal dumps; (4) write assembly language programs using techniques ranging from reading of cards through address modification, loops, editing, and sorting of 1-level tables; (5) use macro instructions and subprograms. Prerequisite: EDP 3515; or Departmental consent. (3-2) 4

EDP 3514 Computer Language I — COBOL: Upon completion of this course the student should be able to: (1) analyze given problem definitions and develop solutions from a programming viewpoint at a fundamental level; (2) construct hierarchy charts, I/O specifications, and structured flowcharts for a problem solution; (3) write and execute structured COBOL programs for business problems involving data input, basic calculations, code checking, decision making, iterations, reports, headings, and summary totals; (4) prepare test data and verify results of executing a COBOL program; (5) correct syntax and logical errors in a COBOL program. (3-4) 5

EDP 3515 Computer Language II — COBOL: Upon completion of this course the student should be able to: (1) write structured COBOL programs to handle one and two level tables of data, iterative processing, multi-level totals, sort files, multiple file processing and disk and tape I/O; (2) code, test, and debug sample problems; (3) write code which conforms to published departmental standards; (4) use manuals to analyze error messages; (5) demonstrate efficiency in coding techniques for data storage and program testing. Prerequisite: EDP 3514 or Departmental consent. (3-4) 5

EDP 4314 Systems And Procedures: Upon completion of this course the student should be able to: (1) summarize the state of the art in information systems design; (2) prepare and explain a coding system for business forms; (3) design a business form to users specifications; (4) prepare a project plan and status reports; (5) prepare information oriented flowchart with an appropriate narrative; (6) draw feasibility conclusions; (7) prepare a multiple record layout form; (8) prepare a computer print chart from a report specification. Prerequisite: ACC 1604, EDP 3300, or Departmental consent. (3-0) 3

EDP 4315 Applied Business Systems: Upon completion of this course the student should be able to: (1) determine optional storage requirements for specific files and its related accessibility; (2) estimate hardware, software, and staff requirements for a specific business application; (3) relate the various business statements (ex. balance sheet, income, cost of goods sold) to the data base; (4) analyze business problems and submit probable solutions; (5) prepare a feasibility study including cost of hardware, programming and systems analysis (cost factors are supplied), requirements, and a purchase vs. lease option. Prerequisite: EDP 4314 or consent of instructor. (3-0) 3

EDP 4390 Individual Study: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Department Head is required. (3-0) 3

EDP 4425 Computer Systems I: This course uses one of the systems available for CPCC students — MVS/JES2, an OS type system. Upon completion of this course the student should be able to: (1) use utility manuals to code the JCL and control statements for certain utilities; (2) code DD statements for sequential files; (3) code JCL for compilation and execution of COBOL and WATBOL programs; (4) create PDS, store and execute load modules; (5) list physical and storage characteristics of disk and tape; (6) calculate storage requirements for a file on disk or tape; (7) trace the job flow from input to output identifying software programs involved for a multiprogramming computer system for compilation and execution of programs; (8) diagram the program and data flow in a multiprogramming computer including channels and interrupts; (9) define an operating system and discuss IPL, SYSGEN and other selected terms; (10) code parameters of a Job and Execute card; (11) use catalogued files; (12) define selected communication terms dealing with lines connecting a terminal to a computer system. Prerequisite: EDP 3514 or Departmental consent. (3-2) 4

EDP 4434 Introduction To Operations Research: Upon completion of this course the student should be able to: (1) trace history, development, and use of O.R. techniques; (2) perform manipulative skills necessary for solution of linear programming (simplex), transportation model, CPM, selected simulation and queing; (3) analyze problem definitions and apply appropriate model for solution; (4) prepare input data and interpret output for certain O.R. models using a computer. Prerequisite: MAT 3505, MAT 2514, and EDP 1404 or Departmental consent. (3-2) 4

EDP 4435 Computer Systems II: This course uses both the operating systems available for CPCC students — MVS/JES2, an OS type operating system and DOS/VSE a DOS type operating system. Upon completion of this course the student should be able to: (1) store, modify and use source modules on PDS in COBOL and WATBOL; (2) code DD statements for index sequential, VSAM, random files and define processing procedures and modes; (3) create and store procedures in a procedure library; (4) establish and use generation group files; (5) use utility manuals for execution of selected utilities; (6) state purpose of and list some typical access method programs; (7) use message code listings to determine errors occurring in running sample labs; (8) code the control language for a DOS operating system. Prerequisite: EDP 4425 or Departmental consent. (3-2) 4

EDP 4437 Computer Language Survey: A study of one particular computer language or a study and comparison of various computer languages. The language(s) studied is based on current request. Upon completion of this course a student should be able to write basic programs in the language(s) studied. Prerequisite: Departmental consent. (3-2) 4

EDP 4444 RPG II Programming: Upon completion of this course the student should be able to: (1) define various fields on the RPG II specification forms; (2) explain general logic of the execution cycle; (3) code, debug, and execute RPG II programs using indicators, multiple files, matching records, total levels, report headings, group indication, array processing, and exception output instructions; (4) correct compiling and logic errors. (3-2) 4

EDP 4445 Advanced RPG II Programming: Upon completion of this course the student should be able to: (1) code table look-up routines; (2) update sequential, indexed sequential, and direct file organizations; (3) code array processing routines; (4) use packed decimal numeric representation; (5) code subroutines and use structured programming techniques; (6) code exception time output instructions; (7) use files on both tape and disk. Prerequisite: EDP 4444 or Departmental consent. (3-2) 4

EDP 4516 CICS And Programming Aids: Upon completion of this course the student should be able to: (1) use the COBOL language, code and call sub-programs, generate reports using the report writer feature, utilize the debugging verbs, code the sort statement, and code additional selected verbs; (2) generate screen formats using a selected software package; (3) code program for file inquiry and maintenance from a CRT unit using a selected software package; (4) perform selected program maintenance routines; (5) read hexadecimal dumps, data maps, and procedure maps in debugging a COBOL program; (6) compare update logic for various file organizations. Prerequisite: EDP 3515 or Departmental consent. (3-4) 5

EDP 4517 Data Processing Application I: Upon completion of this course the student should be able to: (1) design files and report formats, write programs, and prepare documentation according to specifications for a selected batch processing business application involving multi-programs; (2) create and process files on tape and/or disk as required by the selected business application; (3) code and/or state programming techniques used in business applications such as data editing, sorting, merging, multilevel control breaks, table processing, calculation of days between dates, sequential and direct file processing, and various report formats; (4) code the required JCL for programs and utilities as needed in implementing the selected business application. Prerequisite: EDP 3515, EDP 4444 and EDP 4435; or consent of instructor. (3-4) 5

EDP 4518 Data Processing Application II: Upon completion of this course the student should be able to: (1) work on a programming team in programming a complete on-line business data processing application; (2) make decisions regarding file organization to use, number and scope of programs in a particular business application, and others in designing a computerized on-line business system; (3) code or explain techniques or routines used in computerizing a business application such as check digit routines, data sets, indexed and VSAM file processing, and file backup; (4) code all required JCL in the selected business application project for implementation; (5) use data base management concepts in file design; (6) code and/or state programming procedures for on-line processing with a data base using selected software such as a CICS or IMS. Prerequisite: EDP 4516, EDP 4435, and EDP 4444; or consent of instructor. (3-4) 5

EDP 5201 CRT Use In Business Applications: The CRT (cathode ray tube) is becoming more prominent as the computer becomes accessible to all areas of business. The CRT Use In Business Applications course is designed to familiarize the student with the general use of the CRT. Upon successful completion of the course the student should be able to: (1) describe the principles of CRT use; (2) define the general use of functional keys; (3) obtain particular display screens upon request; (4) use the CRT effectively for feeding and obtaining information to and from the computer. (2-0) 2

EDP 5300 Microcomputer Operations: This course concentrates on the knowledge and skills needed to operate a microcomputer, not programming or maintenance. Upon completion of this course a student should be able to: (1) operate keyboard (no speed training), cassette input/output, floppy disk, and line printer; (2) use operational commands; (3) enter data and interpret output for selected business data processing applications. The microcomputers in the CPCC Computer lab will be used for practice exercise. (2-2) 3

EDP 5390 Individual Study: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Department Head is required. (3-0) 3

EDP 5424 Programming I — Operators: Upon completion of this course the student should be able to: (1) write COBOL programs that will generate business reports with headings and simple arithmetic operations performed on input data, (2) analyze listings of COBOL programs to determine such things as: (a) file, record, and field names, (b) input/output record layouts, (c) input/output devices; (3) list the steps and describe JCL involved in compilation and execution of a COBOL program as handled under an operating system. Prerequisite: EDP 3300. (3-2) 4

EDP 5425 Programming II — Operators: Upon completion of this course the student should be able to: (1) explain the general purpose of the RPG II Specification forms; (2) code, debug, execute RPG II programs to perform basic calculations and generate reports involving control breaks, headings, and form control. Prerequisite: EDP 3300. (3-2) 4

EDP 5524 General Data Processing Applications: Upon completion of this course the student should be able to: (1) create a program library and store machine language executable programs in the library; (2) code the O/JCL necessary to execute programs stored in a library and code the O/JCL for files to be used by the program; (3) draw operational flow charts; (4) read a selected operator run sheet to determine devices, files backup and rerun procedures, type forms, form distribution, transaction/master file storage, and special control records for the jobs; (5) prepare master file and transaction file records for a selected business data processing application; (6) prepare a run schedule, run the programs and verify the results for a selected business data processing application; (7) use return codes in controlling job step execution; (8) define selected terms associated with business data processing applications. Prerequisite: EDP 5614 and EDP 5424. (4-2) 5

EDP 5613 Computer Operations I: Upon completion of this course the student should be able to: (1) define and use selected coding system for input data; (2) design input record layouts; (3) read and interpret computer output reports; (4) state and define principles of operations involving data entry, interpreting, sorting, collating, and forms handling; (5) list the characteristics and describe the hardware components of a computing system; (6) list the operator's duties in the operation of card reader/punch, magnetic tape, disk, and console typewriter; (7) describe the hardware characteristics of a computer system with and without teleprocessing; (8) describe principles of operating a document reader; (9) describe computer output microfilming and audio response equipment; (10) convert decimal, binary and hexadecimal numbers from one base to another. Co-requisite: EDP 3300. (5-2) 6

EDP 5614 Computer Operations II: Upon completion of this course the student should be able to: (1) describe the major components of DOS/VSE; (2) describe the librarian used in DOS/VSE; (3) describe how DOS/VSE implements the use of virtual storage; (4) describe the procedure for performing an IPL; (5) specify operator commands for communicating with the computer system controlling the console and entering operator commands; (6) describe the proper procedure for responding to errors related to system operation; (7) identify the purpose and function of VSE/POWER; (8) interpret displayed job status information; (9) select POWER operator commands which will cause control of I/O operations. Prerequisite: EDP 5613. (5-2) 6

EDP 5615 Computer Operations III: Upon completion of this course the student should be able to: (1) trace the job flow in a multitasking computer environment; (2) list the purpose and types of JCL cards for OS; (3) use manuals to code JCL and execute selected utility programs available on computer system used at CPCC; (4) define the various features of an operating system; (5) define OS operator commands and interpret OS operator messages. Prerequisite: EDP 5614. (5-2) 6

EDP 5616 Computer Operations IV: This course is an advanced extension of EDP 5614 and EDP 5615. Upon completion of this course the student should be able to: (1) compare and discuss operational procedures for minicomputers, DOS, and OS systems; (2) correctly operate terminals and/or computers currently in lab; (3) define means and methods of computer room security and data protection; (4) explain selected error and recovery procedure. Prerequisite: EDP 5615. (5-2) 6

EDP 5901 Data Entry I: Upon completion of this course the student should be able to: (1) identify records; (2) describe the process of record formatting; (3) recognize data errors and correct them; (4) utilize various source documents; (5) punch program cards for keypunch machines; (6) define selected terms related to data entry; (7) be able to use a CRT at an elementary level; (8) obtain an acceptable level of keystrokes per hour. (4-15) 9

EDP 5902 Data Entry II: Upon completion of this course the student should be able to: (1) operate a CRT at an advanced level; (2) define the principles of program development of data entry applications; (3) perform operational procedures for transferring data from one media to another; (4) define the principles of the batch/edit routine; (5) obtain an acceptable level of keystrokes per hour. Prerequisite: EDP 5901 or consent of instructor. (4-15) 9

Education

EDU 2500 Introduction To Education: Upon completion of this course, the student will demonstrate a knowledge of the development and present status of education in American society with attention given to the objectives of democratic education and the role of the teacher in their implementation. (Does not satisfy Social Science requirement.) (5-0) 5

Electrical/Electronics Engineering Technology

ELN 3100 Electrical/Electronics Seminar: Upon successful completion of this course students will: (1) have received an orientation to the College and the Electrical/Electronics Programs, including the services and personnel available; (2) have explored available electrical/electronic course specializations and associated career path opportunities; (3) have explored the continuing education possibilities, including the Bachelor of Engineering Technology (BET) programs; (4) have explored the benefits of membership in professional organizations, including the student section of IEEE; (5) have heard speakers from industry discuss their individual needs and what they look for when selecting graduates for employment. (1-0) 1

ELN 3300 Electrical Installations And Safety: Through a series of varied learning experiences, the student will learn basic electrical concepts and how they apply to the safety of buildings. Upon successful completion of this course, the student should be able to demonstrate basic knowledge of electrical fundamentals and distinguish between safe and unsafe selection and installation of electrical hardware and equipment in accordance with practices outlined in the National Electrical Code. Designed for the student whose primary orientation is NOT in a technical field. (May not be used as a E/E Specialty Elective.) (3-0) 3

ELN 3403 Instruments And Measurements: Upon successful completion of this course a student should be able to: (1) define and correctly use instrumentation terms such as accuracy, sensitivity, precision, etc.; (2) correctly use the common electrical measuring instruments; (3) calculate the values of shunts and multipliers to extend the range of meters; (4) properly manipulate the controls of signal generators and oscilloscopes to present a visual trace of an electrical signal for waveshape observation; frequency comparison and measurement; time, voltage, and phase determination; (5) properly connect and measure power with a wattmeter; and (6) make precise resistance measurement with a Wheatstone Bridge. Prerequisite: ELN 3514. (3-3) 4

ELN 3404 Electronics I — Active Devices: Upon completion of this course the student should be able to: (1) demonstrate a working knowledge of semiconductor diodes and their application in basic rectifier circuits; (2) select and/or determine component values required to predict class A linear amplifier operation. Prediction will be in terms of all DC signal voltages and currents for a triode tube and transistor circuit; (3) construct in the laboratory triode tube and transistor class "A" linear amplifier circuits, measure all circuit voltages and currents using ammeters, voltmeters, audio generators and oscilloscope. Prerequisite: ELN 3515. (3-3) 4

ELN 3405 Electronics II—Analog Circuits: Upon successful completion of this course the student should be able to: (1) design proper DC bias for class "A" transistor amplifiers; (2) analyze performance of small signal transistor amplifier circuits using hybrid equivalent circuits and parameters; (3) design proper DC bias for JFET and MOSFET amplifiers; (4) interpret key specifications for linear integrated circuits by the use of manufacturer's specification sheets; (5) choose necessary discrete components required to "make functional" linear integrated circuits; (6) experimentally demonstrate circuit design and device specifications in the laboratory. Prerequisite: ELN 3404. (3-3) 4

ELN 3414 Industrial Instrumentation: Upon completion of this course the student should be able to: (1) specify an appropriate input transducer for interface in an electronic control system for measurement of temperature, pressure, light, et. al. (2) specify appropriate output control element requirements and/or device for recording, display, and process control; (3) integrate input and output transducers with electronic signal conditioners (e.g. op-amps) and control systems; (4) interface TTL logic levels to high voltage industrial control equipment. (E/E Specialty Elective) Prerequisite: ELN 3517. (3-3) 4

ELN 3514 Basic Electricity (DC): Upon completion of this course the student should be able to: (1) calculate voltage, current, resistance and power of series, parallel and combination DC resistive circuits using Ohm's law, Kirchoff's law and the power law when given sufficient data; (2) measure these circuit parameters with suitable instruments and obtain data to prove the laws of electricity; (3) interpret passive circuit diagrams and symbols; (4) interconnect components shown on standard circuit diagrams to produce functioning circuits; (5) calculate and predict the instantaneous values of voltage, current, charge and energy stored in R-C and R-L time constant series, parallel and combination circuits and measure these parameters in the laboratory; and (6) calculate equivalent circuit values of series, parallel and combination, connections of either inductance or capacitance and measure actual circuit parameters. Co-requisite: MAT 3507. (3-6) 5

ELN 3515 Basic Electricity (AC): Upon completion of this course the student should be able to: (1) select values of R, C, and L required to produce any desired voltage, current and impedance in AC circuits; (2) analyze R, C, and L series parallel and combination circuits and draw vector diagrams representing voltage current, impedance, resistance, reactance, and reciprocal quantities; (3) calculate L-C values required in resonant circuits and recognize this condition in functioning circuits; (4) correct power factor when required and calculate true power, apparent power and reactive power and reactive power in AC circuits; and (5) select proper transformers in low frequency circuits for impedance matching, voltage step up or step down and test for proper operation in these circuits. Prerequisite: ELN 3514, MAT 3507. (3-6) 5

ELN 3517 Electronics III: Circuits: Upon completion of this course the student should be able to: (1) recognize, (2) reproduce, (3) specify component characteristics for (4) assemble and, (5) test the following electronic circuits: rectifiers, passive filters, controlled power switching circuits, push-pull and other large signal amplifiers, oscillators, and power supply regulators. Prerequisite: ELN 3405. (3-6) 5

ELN 4100 Electrical/Electronics Senior Seminar: Upon successful completion of this course the student should be able to: (1) identify and define the various career specializations and career roles available to the Electrical/Electronics Engineering Technician; (2) write an acceptable resume; (3) demonstrate satisfactory skills required in the job hunting process. Prerequisite: 3517; Co-requisite: COM 3306. (1-0) 1

ELN 4304 Radiotelephone Operation: Upon successful completion of this course the student should be able to pass the Federal Communication Commission examination for the general radio telephone operators license. (E/E Specialty Elective in Electronics program only.) Prerequisite: ELN 4414. (3-0) 3

ELN 4307 Systems Correction Procedures: Upon completion of this course a student should be able to: (1) diagnose defects in electrical/electronics circuits and systems, given appropriate diagrams and operational specifications; (2) locate defective components with the effective application of as VOM, EVM, A-C ammeter, wattmeter, oscilloscope, audio generator, R.F. generator or frequency meter; (3) select appropriate replacement component as required to restore circuit or system to acceptable performance; and (4) perform alignment and or adjustments as required by equipment performance specifications. Prerequisite: ELN 3517. (1-6) 3

ELN 4310 Introduction To Microprocessors: An individualized self-paced course designed for the student to be able to: (1) identify a microprocessor-based system and its associated integrated circuitry; (2) interpret machine instructions, control signals and data flow through a typical system; (3) assemble interface circuits to microcomputer system; (4) write programs in both machine and assembly language for a M6800 system; (5) execute and debug programs using individual microcomputer systems. (E/E Specialty Elective for Electrical Program only.) Prerequisite: ELN 4427 (0-9) 3

ELN 4326 Electrical-Electronics Project: Upon completion of this course the student should from a schematic diagram be able to: (1) layout and produce a printed circuit board; (2) install components; (3) test circuit; (4) evaluate performance and provide a detailed technical report on the project. Prerequisite: ELN 3517, DFT 3400. Co-requisite: COM 3306. (1-6) 3

ELN 4345 Advanced E/E Topics: The student will solve a wide variety of problems illustrating advanced applications of Electrical/Electronic Engineering Technology principles. Topics may include: microprocessor applications and design (M-6809, M-68000), power electronics and control, programmable logic controllers (PLC), medical electronics and advanced communications. Specific topic(s) may vary from quarter to quarter. (E/E Specialty Elective.) Prerequisite: ELN 3517 and consent of Program Director. (1-6) 3

ELN 4400 Practical Electricity: Through a series of varied learning experiences, the student will learn basic AC and DC electrical concepts of voltage, current, power and how they apply to practical applications. Upon completion of the course the student should be able to: (1) recognize and choose safe electrical devices; (2) apply the National Electrical Code to an electrical installation; (3) determine the proper size fuse or circuit breaker to protect a circuit; (4) differentiate between an electrical open, short, or ground; (5) select the proper wire sizes for circuits; (6) make proper electrical connections; and (7) select proper components and assemble basic circuits. (May NOT be used as an Electrical/Electronics Specialty Elective.) Co-requisite: MAT 3507. (3-3) 4

ELN 4401 Planning Electrical Installations: Upon completion of this course the student should be able to: (1) have an understanding of and an appreciation for the value of the Underwriters Laboratories and the National Electrical Code; (2) use the N.E.C. to determine safe standards for planning electrical installations; (3) calculate heat loss and gain for electrical heating and cooling; (4) plan and calculate lighting specifications for commercial installations. (Required in Electrical Program; E/E Specialty Elective in Electronics Program.) Prerequisite: 3515. (3-3) 4

ELN 4404 Medical Electronics: Upon completion of this course the student should be able to: predict equipment response when given appropriate bioelectric equivalent signal; (2) verify proper connection of patient/transducer interface to medical equipment; (3) measure with conventional test device the leakage currents associated with the safety of medical equipment; (4) diagram the human cardiovascular circulation system; and (5) select the appropriate electrode or transducer as required to obtain a given biomedical parameter. (E/E Specialty Elective.) Prerequisite: ELN 3517. (3-3) 4

ELN 4407 Electronics IV: Op-Amps: Upon successful completion of this course the student should be able to utilize operational amplifier specification data for the purpose of: (1) selecting and/or determining necessary discrete components and power required for common integrated circuit operational amplifiers applications; (2) designing circuit applications for oscillators comparators, inverting amps, noninverting amps, voltage regulators zero cross detectors, and waveform generators; (3) experimentally demonstrate circuit design and device specifications in laboratory. (Required for Electronics Program; E/E Specialty Elective in Electrical program.) Prerequisite: 3517. (3-3) 4

ELN 4414 Receivers and Transmitters: Upon completion of this course the student should be able to: (1) calculate and measure the resonant frequency of various LC circuit combinations; (2) calculate and measure bandwidth of resonant LC circuits; (3) draw block diagrams and trace signal of typical AM and FM receivers and transmitters; (4) perform alignment of receiver and transmitter coupled circuits for acceptable performance by using appropriate test and measuring equipment and techniques; (5) perform technical analysis of AM and FM receiver and transmitter circuits as follows: frequency multipliers, small signal and large signal voltage and power amplifiers, oscillators and AM and FM detectors. (E/E Specialty Elective.) Prerequisite: ELN 3517. (3-3) 4

ELN 4415 Industrial Programmable Controllers: A presentation of the basic principles and practical applications of Programmable Logic Controllers (PLC's). Upon successful completion of this course the student should be able to: (1) convert relay ladder diagrams to PLC programs; (2) design PLC programs for practical industrial applications; (3) utilize peripheral devices such as recorders, input/output modules, CRT, and printers; (4) execute programs in the laboratory controlling the simulated operation of typical industrial control systems. Prerequisite: ELN 4427 or consent of Program Director. (3-3) 4

ELN 4416 Computer Maintenance I: Upon successful completion of this course the student should be able to: (1) identify and define the various components of a small computer system; (2) show efficiency and proper application of electronic test equipment such as oscilloscope and logic probes in computer systems; (3) demonstrate an understanding of the theory of operation concerning how a microprocessor controls data movement to RAM, ROM, CRT terminal, floppy disk controller and a printer; (4) localize and correct defective components (at the system, board, and component levels) in the computer peripheral interface circuitry to terminals and printers; (5) perform preventive maintenance and alignment procedures as specified. Co-requisite: ELN 4547. (2-6) 4

ELN 4427 Digital Circuits I: Upon completion of this course the student should be able to: (1) specify the improvements and advantages that digital circuitry provides in electronic equipment and devices; (2) use binary numbers and codes to perform binary arithmetic; (3) read logic diagrams and use manufacturer's specifications to determine operating characteristics and functions of digital circuits; (4) draw a digital schematic circuit using proper drafting techniques; (5) reduce digital expressions by using laws and theorems of Boolean algebra and Karnaugh maps; (6) implement circuitry using AND, OR, NAND, NOR and inverter gates; (7) utilize R-S and J-K flip-flops as memory devices; (8) construct and verify the operation of various digital circuits in a laboratory setting. Co-requisite: ELN 3405. (3-3) 4

Course Descriptions

ELN 4434 Digital Circuits II: Upon completion of this course the student should be able to: (1) utilize the J-K flip-flop as the building block for the design counters, storage and shift registers; (2) utilize decoder circuitry to drive LED's to displaying readouts; (3) use both astable and monostable multivibrators for timing and control of digital circuits; (4) design digital-to-analog and analog-to-digital converters to interface electronic circuitry; (5) implement addressing and movement of data in RAM and ROM; (6) design, draw the above circuitry, and assemble it using conventional breadboarding and wirewrapping techniques in a laboratory setting. (Required in Electronics Program; E/E Specialty Elective in Electrical Program.) Prerequisite: ELN 4427. (3-3) 4

ELN 4435 Microcomputer Applications: Upon completion of this course the student should be able to: (1) identify the hardware of a microcomputer (Apple II) and its peripheral components; (2) trace the machine operation with reference to a microprocessor, system monitor, memory and floppy disk controller; (3) flowchart and document the necessary software for specific engineering technology applications; (4) solve and execute engineering technology problems using a microcomputer. Prerequisite: ELN 3515. (3-3) 4

ELN 4444 Network Analysis: Upon completion of this course the student should be able to: (1) determine series and parallel equivalent circuits using Kirchhoff's law; (2) simplify DC and AC circuits to Thevenin's and Norton's equivalent; (3) calculate electrical properties of DC and AC network circuits using superposition, mesh, and nodal analysis; (4) transform delta equivalent circuits to wye and wye to delta; and (5) experimentally prove the above in a laboratory. Prerequisite: ELN 3515, MAT 3508. (3-3) 4

ELN 4505 Power Electronics: Upon successful completion of this course, the student should be able to perform basic circuit design, select components, breadboard in the lab, and evaluate operational performance of the following industrial electronic circuits: (1) industrial rectifiers; (2) thyristor phase shift control; (3) electronic DC motor control; (4) switching transistor power control; (5) variable frequency AC motor control. (Required in Electrical Program; E/E Specialty Elective in Electronics Program.) Prerequisite: ELN 4525, ELN 3517. (3-6) 5

ELN 4525 Electrical Machines I: Upon successful completion of this course the student should be able to: (1) specify the factors required to induce a voltage and develop force in simple generators and motors; (2) show visually the physical relation and polarities of the above factors; (3) calculate induced voltage in generators; (4) calculate developed force and torque in motors; (5) calculate the electrical quantities of current, voltage, power, power factor, phase angle, voltage regulation, efficiency and the physical quantities of torque, speed, and horsepower for: (a) DC generators; (b) DC motors; (c) transformers; (d) alternators; (e) three-phase motors; (f) single-phase motors; and (6) select and wire motors, generators, transformers, meters, and loads in the laboratory as required to obtain operational data and evaluate performance of the above. Prerequisite: PHY 1404, ELN 3515. (3-6) 5

ELN 4526 Electrical Machines II: Upon successful completion of this course the student should be able to: (1) analyze and evaluate the electrical and mechanical characteristics of (a) synchronous motors, (b) alternators in parallel, (c) three-phase transformers, (d) autotransformers; (2) perform motor, generator, and transformer efficiency evaluations, and compute efficiencies at various operating loads; (3) determine, select, and evaluate overload and short circuit protective devices for optimum motor protection; (4) design and evaluate performance of various AC and DC motor control circuits; (5) conduct laboratory experimentation as required to obtain operational data and evaluate performance of the above devices and circuits. (Required in Electrical Program; E/E Specialty Elective in Electronics Program.) Prerequisite: ELN 4525. (3-6) 5

ELN 4547 Microprocessors I: Upon successful completion of this course the student should be able to: (1) utilize a microprocessor-based system as a digital controller and specify present and future applications for industrial control and monitoring; (2) interpret the specifications and characteristics of the integrated circuitry associated with a microprocessor including RAM, ROM, PROM; (3) demonstrate the application of peripheral devices which interface with a microprocessor; (4) interpret machine instructions and trace their execution through a typical system; (5) write programs using both machine and assembly language for M6800 systems; (6) execute and debug programs using individual microcomputer systems. (E/E Specialty Elective.) Prerequisite: ELN 4434, ELN 4435. (3-6) 5

ELN 4557 Microprocessors II: This course is a continuation of ELN 4547. Upon successful completion of this course the student should be able to: (1) design a monitor program for a microprocessor based system; (2) write the necessary software with the aid of a M6800 assembler and editor; (3) design appropriate I/O interfacing; (4) debug, test, and document the microcomputer system. (E/E Specialty Elective.) Prerequisite: ELN 4547. (3-6) 5

ELN 4567 Microcomputer System Design: Upon successful completion of this course the student should be able to: (1) design a microprocessor based system (M6800 or M6809) with an interface module to control an industrial process; (2) write software with the aid of editor/assembler to control the system; (3) fully document the system with electrical schematics and source listing; (4) construct a working board with EPROM monitor to control the system. (E/E Specialty Elective.) Prerequisite: ELN 4547. (3-6) 5

English

ENG 9500 Effective Sentence Writing: An individualized, self-paced course, composed of classroom and lab experience, designed to meet the needs of students who lack the necessary English grammar background to express themselves in sentences. When students have completed ENG 9500, they should be able to write clear, concise, and correctly punctuated sentences both in singular sentence form and within paragraphs. (5-5) 5

ENG 9505 Spelling And Vocabulary: An individualized self-paced course designed to meet the needs of students who are lacking in the study of sound patterns in the English language and exploration of words. At the completion of ENG 9505 the student should be able to produce English speech sounds, to pronounce words, and to spell them correctly. (5-0) 5

ENG 9510 Fundamentals Of Writing: An individualized self-paced course designed to meet the needs of students who are preparing to enter college transfer or technical communication course; however, any student may enroll in the course. Upon successful completion of ENG 9510, students should be able to demonstrate that they have developed the necessary skills by writing and proofreading paragraphs and themes. (Prerequisite: ENG 9500 or Prentice-Hall Test.) (5-0) 5

English As A Second Language

ESL 9102 Basic Survival ESL — Basic Survival English as a Second Language is a crash course especially designed for foreign-born persons whose temporary stay in the United States does not coincide with the College regular scheduling of classes. The multi-entry/multi-exit nature of this class allows for intensive English exposure, on self-paced basis, including a battery of situational and conversational lab activities, all designed for upgrading oral and aural communication skills. Upon successful completion of this course the student should be able to ask and answer questions pertaining to greetings, personal identifications, time, money, etc. (0-2) 1

ESL 9190 Teaching English As A Second Language: This course is designed to familiarize the student with methods used in the art of teaching English as a language, or any language other than the native one. Upon completion of this course the student should be able to identify, test and properly place students of English As A Second Language according to their proficiency level. Prerequisite: Must possess teaching certificate, or Departmental consent.

(1-0) 1

ESL 9201 Driver's Education (Traffic Signs, Symbols and Regulations): This course is designed to prepare foreign-born residents and full-time students with vocabulary and interpretive skills necessary to obtain the North Carolina Learner's Permit. Upon completion of this course the student should be able to meet the requirements to obtain the Permit. Prerequisite: Must possess a valid visa or alien registration card.

(2-0) 2

ESL 9301 English Through Music: The purpose of this course is to acquaint the non-English student with the standard American pronunciation and to improve expression, intonation and vocabulary by using music and the International Phonetic Alphabet. Upon completion of the course the student should be able to demonstrate evidence of improved pronunciation and vocabulary, self-confidence and cultural adjustment.

(3-0) 3

ESL 9303 — The American Way: This course is designed to introduce the foreign-born student to all facets of life in the United States through lecture, demonstration, visual aids, and discussion. It is hoped that the informal class discussion will help students better understand the reasons for actions and attitudes of the United States of America and to be able to compare the similarities and differences between the student's native country and the United States.

(3-0) 3

ESL 9304 American Citizenship: This course is designed to prepare foreign legal residents to become American citizens. Upon completion of this course the student should be able to pass the Citizenship and Naturalization Test administered by the Immigration and Naturalization Service.

(3-0) 3

ESL 9310 English Handwriting: This course is designed to teach cursive English handwriting to non-English speaking persons. Upon successful completion of this course, students should be able to write legibly both in cursive and manuscript forms, recognizing all the letters of the alphabet, analyzing them phonetically. Students should be able to transcribe from one form to the other, maintaining differentiation between capital and lower case letters.

(3-0) 3

ESL 9504 Conversational English I: This course is designed to provide the non-English speaking person with the basic English language skills to meet essential communication needs, that is to provide the foreign student with survival English. Upon successful completion of this course, the student should be able to ask and answer simple questions using English vocabulary learned in the course.

(3-4) 5

ESL 9505 Conversational English II: An intermediate level conversation course designed to help foreign-born individuals overcome the inhibitions of speaking English as a second language. Upon successful completion of this course, the student should be able to make a 15-20 minute speech on a subject of his/her own choice using correct English grammar and pronunciation. Prerequisite: ESL 9504, or Departmental consent.

(3-4) 5

ESL 9514 Grammar I: This course is designed to provide foreign born students with the basic parts of speech of the English grammar. Upon successful completion of this course the student should be able to: correctly use common verbs, nouns, and adjectives in oral and written communications; define and distinguish between homonyms and antonyms; demonstrate knowledge of the three forms of sentences; apply correctly the rules of capitalization and punctuation; write simple paragraphs which demonstrate knowledge of the structure of simple sentences. Prerequisite: ESL 9505 or a score of 40 or above on ESL Placement Test, or Departmental consent.

(3-4) 5

ESL 9515 Grammar II: This course is designed to increase the basic English grammar skills of foreign students. Upon successful completion of this course, the student should be able to (1) identify and correctly use the principal parts of speech in oral and written communications; (2) distinguish between homophones, homographs and homonyms and (3) interpret American idiomatic expressions giving their English equivalents and vice-versa. Prerequisite: ESL 9514, or score of 31 to 66 or the ESL Test, or consent of instructor.

(3-4) 5

ESL 9524 Vocabulary I: This course is designed to provide the international student with the basic and functional vocabulary necessary for daily living. Emphasis will be placed on writing, reading, speaking, and using synonyms to quickly convey the meaning and the usage of the vocabulary words being taught. Upon successful completion of this course the student should be able to recognize, define, and correctly use in writing the vocabulary taught in this course.

(3-4) 5

ESL 9525 Vocabulary II: This course is designed to provide the international student with a low intermediate level of vocabulary, broader than ESL 9524. Emphasis will be placed on writing, reading, speaking, and defining approximately 200 new vocabulary words. New vocabulary is taught in the context of short written passages, covering subjects from everyday life and is used in written exercises. Upon successful completion of this course the student should be able to recognize, define, pronounce, and correctly use in writing the vocabulary taught in this course.

(3-4) 5

ESL 9526 Vocabulary III: (American Idioms) This course is designed to provide the advanced international student with the special vocabulary and meaning conveyed through idiomatic expressions. It is an objective and concise study of the most common American idioms and their usage in speech and writing. Upon successful completion of this course the student should be able to comprehend the idioms in reading passages and use them in speech and in writing.

(3-4) 5

ESL 9534 Academic English I: This course is designed to develop the writing skills of foreign-born students by preparing them for their academic programs. This course is also intended to prepare the student to take part two of the TOEFL test. Upon successful completion of this course, the student should be able to demonstrate college level mastery of grammatical, writing and reading skills and successfully pass part two of the TOEFL test. Prerequisite: ESL 9525 or a score of 31-66 on the ESL Test, or consent.

(3-4) 5

ESL 9535 Academic English II: This course is designed to be an intensive review of oral and written English for the foreign student preparing to take the TOEFL exam. Upon successful completion of this course, the student should be able to achieve a score of at least 500 on the TOEFL exam. Prerequisite: ESL 9534 or a score above 67 on the ESL Test, or consent.

(3-4) 5

Finance

FIN 3303 Personal Investing: In this introductory course in investments the student will learn how to define investments and describe how one should go about investing; prepare a budget allocating income, expense, and savings; analyze returns in investments using financial ratios; discuss securities markets and regulation of securities markets; understand terminology and terms pertinent to stocks, bonds and other securities; discuss various investments such as insurance, investment companies, REIT's, mutual funds and tax sheltered annuities.

(3-0) 3

FIN 3314 Business Mathematics I: In this introductory business mathematics class, the student will be taught to apply arithmetical functions to business situations. Whole numbers, fractions, and decimals are reviewed. Percentage, base, and rate problems with specific application for trade discounts, cash discounts, markups, and markdowns are covered. The student will also study the metric system and banking calculations.

(3-0) 3

FIN 3315 Business Mathematics II: In this continuing business mathematics class, the student will be taught to apply the basic arithmetical functions to the following business situations: payroll, installment loans, real estate loans, property taxes, insurance, depreciation, and investments. The student will draw graphs and make simple statistical calculations. Prerequisite: FIN 3314.

(3-0) 3

FIN 3330 Real Estate Arithmetic: Upon completion of this course, the student will have demonstrated competency in applying basic arithmetical processes to solving problems in real estate including the following: geometric diagrams, commissions, profits and losses, appreciation and depreciation, interest, financial packages, taxes, insurance, capitalization and investments.

(3-0) 3

FIN 4303 Personal Estate Planning: In this introductory course in estate planning, students will learn how to: determine the present condition of their estates; establish personal objectives and goals based on relevant assumptions; develop a plan to increase their wealth; conserve estate values by minimizing estate taxes and costs; put together an estate planning team; and conduct periodic reviews of the estate plan.

(3-0) 3

FIN 4317 Financial Statement Analysis: This course is a study of the fundamentals of the major financial statements used in accounting with particular emphasis on the balance sheet and income statement. The student will be able to demonstrate satisfactory competency in the application of various techniques of analysis to determine financial position and to interpret operating results. Prerequisite: ACC 1604.

(3-0) 3

FIN 4334 Business Finance I: Upon completion of this course, the student will have demonstrated an understanding of a variety of topics related to business finance. Specific areas of study include forms of business organization, ratio analysis, budgeting and forecasting techniques, leverage, current asset and current liability management, mergers and acquisitions, and bankruptcy. Prerequisite: ACC 1604.

(3-0) 3

FIN 4335 Business Finance II: Upon completion of this continued study of business finance, the student should be able to apply various methods of evaluating investments, determine the cost of different types of capital and explain the financing of corporations and other business entities. Specific topics include present value concepts, capital budgeting techniques, capital markets, bond and stock financing, term loans and leases, and corporate dividend policies. Prerequisite: FIN 4334.

(3-0) 3

FIN 4336 Financial Management: This course covers finance functions relating to buying, operating and selling a business. Emphasis is placed on problem solving and the development of analytical skills rather than on theory. The case method is used to develop and reinforce problem-solving skills. The students will demonstrate their ability by solving case problems related to these functions; defining and explaining valuation, financial analysis, and capital budgeting; and applying a variety of techniques for managing working capital, inventories and other business assets. Prerequisite: FIN 4335.

(3-0) 3

FIN 4350 Personal Money And Financial Management I: This is a consumer oriented course designed to enable the student to become a better consumer. When completed, the student should have demonstrated knowledge of consumer laws, protection and remedies; family budgeting and financial planning; housing needs; transportation needs; and uses of credit and its related problems. Awareness of consumer rights and responsibilities on the part of the student is emphasized throughout the course.

(3-0) 3

FIN 4390 Personal Money And Financial Management II: A continued study of FIN 4350, this course is designed to enable the student to become a better consumer. Long-range planning is the major emphasis. Upon completion of the course, the student should be able to make a long-range financial plan for the family; determine insurance needs; understand retirement income planning; understand estates, wills, trusts, and their uses; and determine the need for professional help from lawyers, accountants, bankers and others in their planning.

(3-0) 3

Fire Science

FIP 3301 Fire Prevention Programs And Public Relations:

Upon completion of this course the student should be able to: (1) list and discuss the principles and applications of fire prevention related to the community and industrial plants; (2) discuss the development and maintenance of fire prevention programs, educational programs and inspectional programs; and (3) apply related disciplines to fire prevention problems.

(3-0) 3

FIP 3303 Fire Protection I: Upon completion of this course the student should be able to: (1) state the duties and obligations of fire service, fire protection and safety personnel; (2) identify general fire hazards and causes, fire protection principles; (3) demonstrate skill in applying these principles in the elimination or reduction of the fire hazards and causes; (4) compare current trends and federal legislation in fire protection to early fire protection developments.

(3-0) 3

FIP 3304 Fire Protection II: Upon completion of this course the student should be able to: (1) discuss fire department organization and personnel management in relation to other city departments; (2) evaluate public fire protection needs, financial factors, records, and reporting systems.

(3-0) 3

FIP 3400 Fire Protective Systems: Upon completion of this course the student should be able to: (1) list and describe the various types of portable fire extinguishing systems, their operation, application, installation and maintenance; (2) demonstrate skill in portable extinguishing operations; (3) identify and describe the various types of sprinkler and standpipe systems; (4) demonstrate skill in operating sprinkler valves and standpipe systems. (Industrial Safety, Security & Health Mang. Curr. Only)

(3-2) 4

FIP 3404 Chemistry Of Flammable Materials: Upon completion of this course the student should be able to: (1) list and describe theories of combustion and extinguishment; (2) analyze flammable materials and describe the nature of extinguishing agents; (3) list the properties of matter affecting fire behavior; (4) discuss the use, storage, and disposal of flammable solids, liquids, gases and dust, using the laws and principles of chemistry and physics as a basis for discussion. Prerequisite: CHM 3600.

(3-2) 4

FIP 3406 Arson Detection And Investigation: Upon completion of this course the student should be able to: (1) identify fire causes accidental and incendiary nature; (2) identify points of origin of fire; (3) identify and preserve physical evidence of fire; (4) construct and execute course cases; and (5) identify motives for and methods of fire fighting.

(3-2) 4

FIP 4304 Fire Protection Law: Upon completion of this course the student should be able to: (1) list and discuss pertinent laws and ordinances and codes of fire protection and the responsibilities and powers of the individual or organizations concerning enforcement; (2) discuss liability of fire protection personnel when making inspections, recommendations, fighting fires and other tasks; (3) discuss specific court cases including tort, terms and contracts.

(3-0) 3

FIP 4314 Methods Of Teaching: Upon completion of this course the student should be able to: (1) discuss purposes of fire service drills and training programs; (2) discuss the development and operation of Charlotte-Mecklenburg training programs; (3) list and describe facilities and necessary equipment for modern training; and (4) discuss the selection and training of instructional staff and appropriate methods of instruction. Prerequisite: SPH 1300.

(3-0) 3

FIP 4403 Hydraulics For Fire Protection: Upon completion of this course the student should be able to: (1) describe the flow of fluids through fire hoses, nozzles, appliances, pumps and other devices; (2) describe the designs, uses and testing of nozzles, appliances and pumps, and (3) accurately measure fluid flow using appropriate methods of determining quantities of water available through fire systems. Prerequisite: MAT 3500.

(3-2) 4

FIP 4404 Water Distribution Systems: Upon completion of this course, the student should be able to: (1) identify and describe sources of water, water storage, measurement of fluid flow and methods of determining quantities of water available from a distribution system. Prerequisite: FIP 4403. (3-2) 4

FIP 4405 Sprinkler And Standpipe Systems: Upon completion of this course, the student should be able to: (1) identify and describe the various types of sprinkler and standpipe systems; (2) list and discuss system devices and their operations to include advantage of sprinkler system, codes governing installation, water supply requirements, testing, inspection, and maintenance. (3-2) 4

FIP 4414 Inspection Principles And Building Codes: Upon completion of this course, the student should be able to: (1) list fundamentals of fire inspection including standards, techniques of evaluation of hazards by degrees, and practical recommendations; (2) inspect buildings and write reports on each building, to include maps and sketches of each building, location of hazards, and recommendations for safe practices and improvements. (3-2) 4

FIP 4423 Portable And Fixed Extinguishing Systems: Upon completion of this course, the student should be able to: (1) list and describe the various types of portable and fixed extinguishing systems, their operation, application, installation and maintenance; (2) demonstrate skill in operating portable and fixed extinguishing systems. (3-2) 4

FIP 4424 Automatic Alarm Systems: Upon completion of this course, the student should be able to: (1) list and describe the types of standard and special fire alarm and fire detection systems to include discussion of their operations, installation requirements, testing, inspections, and maintenance. (3-2) 4

FIP 4434 Chemical And Radiation Hazards: Upon completion of this course the student should be able to: (1) list and describe the hazards encountered in chemical and petroleum industries; (2) list and describe radiation hazards, effects of radiation on humans, exposure control, radiological instruments, operational and decontamination procedures; (3) list and describe common uses of radioactive material, their transportation and storage; and (4) demonstrate skills of chemical and radioactive inspections. Prerequisite: FIP 3404. (3-2) 4

FIP 4444 Fire Fighting Strategy: Upon completion of this course the student should be able to: (1) list and describe tactics and strategy in extinguishing fires; (2) list and describe pre-fire plans, fire flow calculations, techniques of using available equipment and manpower, conflagrations, techniques of predicting fires and fuel analysis; (3) demonstrate appropriate response to simulated crises. (3-2) 4

FIP 4454 Building Construction And Material Rating: Upon completion of this course the student should be able to: (1) list and discuss building codes applicable to fire prevention; (2) list and describe the principles and practices used in various types of building construction; and (3) discuss fire resistant tests and rating of materials. (3-2) 4

French

FRE 1300 Travel French: Oral approach to comprehending and communicating in French. Upon successful completion of FRE 1300, the student should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Tapes, filmstrips, movies, and extensive conversation in the classroom. (Elective credit only.) (Does not satisfy humanities requirement.) (3-1) 3

FRE 1600 Elementary French I: Upon completion of the course, the student will have a knowledge of some basic elements of French in conversation, reading, and writing for beginning students. Filmstrips and tapes used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

FRE 1601 Elementary French II: Continuation of FRE 1600 in basic elements of conversation, reading, and writing. Prerequisite: FRE 1600 or consent of Department Head. (Does not satisfy humanities requirement.) (5-2) 6

FRE 2320 Special Topics: An advanced course in which the students and the instructor select topics for independent study. Class meetings for oral reports and discussion. Prerequisite: FRE 2600 or consent of department head. (3-0) 3

FRE 2600 Intermediate French I: Upon completion of the course, the student will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: FRE 1601 or two high school units or consent of Department Head. (5-2) 6

FRE 2601 Intermediate French II: Upon completion of the course, students will have completed their review of grammar along with readings in French with emphasis on people and events that have determined the destiny of France from the beginnings to the present. Prerequisite: FRE 2600 or consent of Department Head. (FRE 2600 and 2601 combined will satisfy humanities requirement.) (5-2) 6

Food Service

FSO 3300 Introduction To Food Preparation: Upon successful completion of the course, the student should be able to cite the sanitation rules of Charlotte and the state code of North Carolina; distinguish between a chain restaurant, corporation hotel, country club operation, cafeteria and coffee shop recognizing the proper chain of command; and explain the basic function of each department existing in an entire food service operation. (3-0) 3

FSO 3305 Table Cookery: Upon successful completion of the course the student should have the necessary knowledge and skill to become a competent head waiter, maitre d', or wine steward. The student should also be able to prepare the various dishes that are appropriate for table cookery, including desserts. Practical knowledge will be acquired in salad making and the correct temperatures that wines are served. (3-2) 5

FSO 3504 Food Preparation I: An introductory course in food preparation and dining room service. Upon successful completion of the course the student should be able to demonstrate skills essential to becoming a cook. In the lab, the student will participate in activities which are of value in understanding present-day food service establishments and dining room technology. The student will also gain meaningful insight in opportunities for individual advancement in the industry. (2-9) 5

FSO 3505 Food Preparation II: Upon successful completion of the course the student should have acquired advanced skills necessary to be a competent cook. The student will become familiar with the finer arts of the methods and preparation of American and European cookery, acquiring the skills necessary to prepare and cook different sauces, egg, and cheese dishes. In addition to learning weights and measures used in cooking, the student will be able to describe the difference between American and European dining room service. (2-9) 5

FSO 3506 Food Preparation III: Upon successful completion of the course the student should be able to identify and prepare soups, consommés, creams, purees, chowders, potages, royals and the techniques used in preparing garnishes. The student will gain an understanding of the value of showmanship needed in presenting fancy foods as well as learning the value of menu technology. (2-9) 5

FSO 4304 Food And Labor Cost Controls: A course concerning food costs and skills necessary for setting food cost objectives. The value of establishing standard portions will be stressed. Purchasing methods, the importance of a weekly inventory, the necessity of food issuing forms and the value of comparative buying will also be emphasized. Upon successful completion of the course the student should be able to direct personnel to the fullest advantage. (3-0) 3

FSO 4407 Baking I: An introductory course in the principles of baking and the skills necessary to make breads, rolls, cakes, etc. Upon successful completion of the course the student should be able to demonstrate the use of correct measurements and the proper use of various baking tools and equipment related to baking. (2-6) 4

Course Descriptions

FSO 4408 Baking II: An advanced course in baking stressing mixing methods, defining the function of each ingredient. Upon successful completion of the course the student should be able to demonstrate the ability to handle and roll basic dough and will be able to recognize the differences in the pastry unit, baking unit and ice cream unit. (2-6) 4

FSO 4409 Baking III: Upon successful completion of the course the student should be able to decorate cakes; identify ingredients used in French and Danish pastries and various icings; and create flaming desserts. (2-6) 4

FSO 4414 Garde Manger I: An introductory course in meat cutting and salad preparation. Upon successful completion of the course the student should be able to demonstrate the showmanship necessary in creating fancy meat platters and the skills required in ice carving and tallow sculpturing. (2-6) 4

FSO 4415 Garde Manger II: Upon successful completion of the course the student should be able to apply the techniques of processing and dressing meats, including poultry and seafood. The student should also be able to construct various sandwiches; identify ingredients used in numerous salad dressings; and recognize color, flavor, and texture combinations used in aspics and glazes for show pieces. (2-6) 4

FSO 4416 Garde Manger III: Upon successful completion of the course the student should be able to demonstrate skilled techniques of boning beef, veal, lamb and pork and should be able to understand the grading of meat and the rudiments used in purchasing. The student should be able to prepare fancy salads, special sandwiches, and a classic chaud froid show piece. In addition, the student should be able to identify various nutritive values associated with fresh fruits and vegetables and how to maintain these nutrients during preparation and cooking. The student should also be able to differentiate the responsibilities of the Garde Manger Section. (2-6) 4

FSO 4506 Food Preparation IV: Upon successful completion of the course the student should be able to saute, fry, roast, braise, stew and broil meats in addition to demonstrating how to carve different cuts of meats. The student should also be able to purchase provisions and groceries; to select proper wines; and to set up special banquets and parties. (2-9) 5

FSO 4507 Food Preparation V: An advanced course in food service technology in composing a menu with the correct combination and price structure. Upon successful completion of the course the student should be able to discuss the importance of setting up stations and dining room service, demonstrate how to work in the hot stations and the Garde Manger section. (2-9) 5

FSO 4508 Food Preparation Practicum: A course enabling the student to acquire work experience under the guidance of a chef in the campus food service facility. (2-9) 5

Geology

GEL 1604 Physical Geology: An introductory course in geology with emphasis on the presence of geology in the student's surroundings. Upon satisfactory completion of this course the student should be able to demonstrate knowledge in the following areas: common minerals and rocks, development of major landforms and the economical use of geological resources. (5-2) 6

GEL 2605 Historical Geology: An introductory course in the historical sequence of the earth's history. Upon satisfactory completion of this course the student should be able to demonstrate knowledge in these areas: recognition of major fossils and associated rock strata, appreciation of the age of many geological formations, and how historical geology aids in finding natural resources. (5-2) 6

General Studies

GEN 1141 Introduction To Nature Photography: An introduction to the basic principles of nature photography with emphasis on the various types of cameras, lenses, and films indicating what the limitations of each are. Also an introduction to the techniques of photography from blinds and tips on how to photograph anything from wild flowers to birds. (0-22) 1

GEN 1142 Field Biology/Ecology Of North Carolina: This course consists of three 7-1/3 hour field sessions. One each to Coastal region/seashore; Piedmont region; and mountains. Each trip provides in the field instruction about the area visited. Highlights of the ecology, geology, flora and fauna of each area are observed and discussed. The course uses three different instructors, each with experience and expertise in the specific area. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1143 Edible Wild Plants: This course consists of 5 hours of lecture and 12 hours of lab (field trips). The class sessions utilize slide demonstrations to acquaint students with edible wild plants of the area. Information on the preparation of these plants will be provided. The field sessions will involve identification of edible wild plants. Students will provide their own transportation to and from field locations. (5-12) 1

GEN 1144 Ecology By Canoe: A course of general interest designed to meet the needs of the weekend college students. The course is made up of 3 all-day (7-1/3 hrs.) field trips by canoe. The students will learn about the flora and fauna of three different geographical regions and streams of North Carolina — ie. Swamp, Piedmont, and Mountain. Little or no canoeing experience is necessary — flatwater streams are selected. Students will provide their own transportation to and from field locations. (0-22) 1

GEN 1149 Field Ornithology: An introduction to the identification and study of birds in the field. Upon satisfactory completion of this course the student should be able to identify several kinds of birds on sight and demonstrate knowledge of special adaptations, kinds of food, and life histories of selected species. (0-22) 1

GEN 1230 Writing To Sell: This course focuses upon the technique of researching, writing and selling nonfiction prose. "Slanting" or adapting articles to specific magazines, newspapers, and other such publications is emphasized. The object of the course is to prepare written materials for marketing. (2-0) 2

GEN 1512 Divorce: A course designed for the formerly married and those in the process of terminating marriage. Class sessions will utilize guest speakers drawn from the College and the community. Through paper and pencil testing the student will demonstrate more positive attitudes toward divorce, a greater knowledge of the state and national trends of divorce, and the impact of divorce on children. Students will demonstrate a greater awareness of the local agencies and resources which can assist with the problems associated with divorce, and the consumer rights and credit rights of a formerly married person. Each student will develop an occupational and/or career advancement plan for future use. (5-0) 5

Geography

GEO 1614 Introduction To Physical Geography: A study of the basic physical elements of geography aimed at understanding the physical environment. Upon successful completion of this course, the student should be able to demonstrate a basic understanding of the earth's geographic grid system, earth-sun relations and their phenomena, basic concepts of cartography, meteorology, hydrology, and geomorphology. (5-2) 6

German

GER 1600 Elementary German I: Basic elements of German in conversation, reading and writing for beginning students, with laboratory tapes to reinforce classroom instruction. (Does not satisfy humanities requirement.) (5-2) 6

GER 1601 Elementary German II: Continuation of GER 1600 in basic elements of conversation, reading and writing. Prerequisite: GER 1600 or consent. (Does not satisfy humanities requirement.) (5-2) 6

GER 2600 Intermediate German I: Intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: GER 1601 or two high school units or consent of Department Head. (5-2) 6

GER 2601 Intermediate German II: Continuation of GER 2600. Reading of selections from German literature combined with oral and written work in class. Prerequisite: GER 2600 or consent of department head. (GER 2600 and 2601 combined will satisfy humanities requirements.) (5-2) 6

Health Education

HED 1100 Health Education I: A study of selected health areas in personal health. The student will be presented information on personal health areas. At the end of the course the student should be able to implement basic health measures for use in maintaining personal health and should be able to utilize health education in improving daily living. (1-0) 1

HED 1101 Health Education II: Continuation of HED 1100. Special emphasis in community health. Upon completion of this course the student should be able to identify health resources and should be able to describe the role an individual can play in improving community health. (1-0) 1

HED 1102 Health Education III: Continuation of HED 1101. Specific emphasis on family health. Upon successful completion of this course the student should be able to describe the factors contributing to family health, relate various health problems encountered by different age groups in a family and be able to list resources for family health. (1-0) 1

HED 1111 Special Health Problems: Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem areas and describe possible solutions to these problems. (1-0) 1

HED 1200 Public Health And Sanitation: The student will become acquainted with general information about the various aspects of public health. The student will become familiar with the health concerns of adults and children and should be able to identify various public health problems and environmental health problems. (2-0) 2

HED 1201 Special Health Problems: Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem and describe possible solutions to these problems. (2-0) 2

HED 1202 Drugs And Related Issues: A study of drugs and drug use in contemporary American society. Upon completion of the course the student should be able to identify decision making and communication skills as they relate to drug use. A discussion of alternatives to drug use will be included. (2-0) 2

HED 1203 Cardiopulmonary Resuscitation (CPR): The student is instructed in Emergency First Aid and CPR procedures that should enable the student to give care to the injured and/or perform emergency procedures when cardiac arrest occurs. The CPR Certificate will be awarded the student upon successful completion of course. (2-0) 2

HED 1204 First Aid I: The purpose of First Aid Training is to acquire knowledge and skill to enable the student to provide emergency care for the sick and injured until medical help can be obtained. The Red Cross Standard First Aid and Personal Safety Certificate will be awarded the student upon successful completion of the course. (1-2) 2

HED 1205 First Aid II: A course to prepare students as instructors in standard first aid. The student will write lesson plans and present these in class situations. Successful completion of this course will qualify the student as a Red Cross Instructor of Standard First Aid and Personal Safety and a certificate will be awarded. Prerequisite: HED 1204. (1-2) 2

HED 1206 Advanced First Aid And Emergency Care: Upon completion of this course the student should be able to perform advanced techniques of first aid skills in caring for the sick and injured. The Red Cross Advanced First Aid Certificate will be awarded at completion of course. Prerequisite: HED 1204. (1-2) 2

HED 1207 CPR Instructor: Upon completion of this course the student should be able to prepare lesson plans for teaching cardiopulmonary resuscitation and present these plans in class. The student should be able to administer tests of basic CPR skills. The CPR Instructors certificate will be awarded at the end of the course. Prerequisite: HED 1203. (2-0) 2

HED 1301 Special Health Problems: Selected health problems are chosen for study. The student is presented a subject area and should be able to identify the problem areas and possible solutions to these problems. (3-0) 3

HED 1310 Your Health — Your Choice: A course containing 30 video modules each concentrating on specific health related topics. Upon completion of course the student should be able to identify and recognize problems and solutions to areas such as diseases of present day civilization, nutrition, drug abuse, aging, consumer health and other pertinent topics. The student should be able to describe personal health choices that can influence total health of the individual. (2-2) 3

History

HIS 1500 World Civilization I: This course involves a study of the development of civilization from the pre-historic period to the Seventeenth Century. Upon successfully completing this course the student should be able to analyze significant events and identify patterns in early political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, and Africa, making relationships between past events and relating these to contemporary problems. (5-0) 5

HIS 1501 World Civilization II: This course involves a study of development of civilization from the Seventeenth Century to the present. Upon successfully completing this course the student should be able to analyze significant events and identify patterns in recent political, socio-economic, religious, intellectual, and artistic development in Europe, Asia, Africa, and the Americas, thus giving context for understanding the present world order. (5-0) 5

HIS 1502 American History I: Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in America from the Colonial era to 1877; and to evaluate major historical interpretations of this period of American history. (5-0) 5

HIS 1503 American History II: Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments in American history from 1877 to the present; and to evaluate major historical interpretations of this period of American history. (5-0) 5

HIS 1510 The American Civil War: Upon completion of this course, the student should be able to explain why the Civil War was a turning point in our nation's history, describe why the tragic years from 1861-1865 form an important episode in our national history, explain why, before 1860, the southern economy was bound to the institution of slavery, describe how the divergent economic structures of the North and South would cause conflict, and explain the frame of reference of the North and South in terms of ideology. (5-0) 5

HIS 1520 Black History I: Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of the Black American from ca. 3000 B.C. to 1865; to analyze and evaluate the philosophies of major Black American leaders from the era of Colonial America to the era of the Civil War; and to evaluate major historical interpretations of Black American history. (5-0) 5

HIS 1521 Black History II: Upon completion of this course the student should be able to analyze significant events and identify patterns in the political, socio-economic, religious, intellectual, and cultural developments of Black Americans from 1865 to the present; to analyze and evaluate the philosophies of major Black American leaders during this period; and to evaluate major historical interpretations of Black American history from 1865 to the present. (5-0) 5

HIS 2104-2504 Special Topics In History: This designation allows students individually or in groups to investigate in greater detail special topics of particular interest not covered in regular classroom offerings. The specific objectives will vary with each course. By consent of instructor and Department Head. (1 to 5 hrs. class/week) (1 to 5 hrs. Credit).

HIS 2500 North Carolina History: Upon completion of this course the student should be able to examine the major historical, geographical, and governmental developments in North Carolina from the colonial era to the present. Through field trips and special projects the student will evaluate the cultural developments and socio-economic contributions of the State. (5-0) 5

HIS 2520 Oriental Civilizations: Upon completion of this course, the student should be able to: (1) explain basic political, socio-economic, religious, and cultural developments in the history of East, Southeast, South, and West Asia from the earliest times to the present; (2) identify significant persons, events, and ideas in the above mentioned area and period of study; (3) learn independently from written materials; (4) organize and present, orally and/or in writing, coherent reports on relevant topics; (5) demonstrate comprehension that contemporary social, economic, and political problems are rooted in the past; and (6) demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5

HIS 2530 Russian History: Upon completion of this course, the student should be able to: (1) explain basic political, socio-economic, religious, and cultural developments in the history of Russia from its earliest beginnings through today; (2) identify significant persons, events, and ideas in the above mentioned area and period of study; (3) learn independently from written materials; (4) organize and present, orally and/or in writing, coherent reports on relevant topics; (5) demonstrate comprehension that contemporary social, economic, and political problems are rooted in the past; and (6) demonstrate appreciation that causal explanation in history is necessarily complex. (5-0) 5

Horticulture

HOR 3202 Home And Yard Horticulture: Upon completion of this course the student should be able to: (1) recognize common woody and herbaceous plant material and make decisions regarding its use; (2) demonstrate a general knowledge of grounds maintenance to include fertilizing, pruning, and plant pest control; (3) demonstrate a general knowledge of plant, turf, and specialty garden installation requirements. (2-0) 2

HOR 3205 Cooperative Work Experience (Co-Op): Upon completion of this course the student should be able to: (1) exhibit a positive attitude toward work in a horticultural business; (2) gain applied experience to supplement class and lab learning. Prerequisite: Permission of Program Director or Program Counselor. Co-Requisite: Registration for HOR 4200. (0-20) 2

HOR 3210 Floral Design: Upon completion of this course the student should be able to: (1) demonstrate basic care and handling of cut flowers; (2) choose and utilize basic floral supplies; (3) demonstrate the 9 fundamental floral design lines; (4) demonstrate 4 basic types of floral design pieces. (1-2) 2

HOR 3302 Landscape Graphics & Measurements: Upon completion of this course the student should be able to: (1) execute measurements commonly used in landscaping; (2) read "working" landscape plans and specifications; (3) prepare basic "working" landscape plans and specifications; (4) reproduce landscape plans. (2-2) 3

HOR 3307 Landscape Your Own Home: Upon completion of this course the student should be able to: (1) analyze the outdoor needs of the family and the environment factors affecting the property; (2) allot space for landscape uses; (3) choose the proper plant material and outdoor architectural features to enhance their property; (4) discuss and construct basic landscape construction features. (3-0) 3

HOR 3312 Indoor Plants: Upon completion of this course the student should be able to: (1) describe the characteristics to look for in houseplants and plant shops; (2) discuss the importance of selected tools, supplies, and containers to proper houseplant care; (3) discuss the effects of selected environmental factors important to houseplants; (4) identify 30 selected houseplants; (5) identify and give control measures for 12 selected pest problems of houseplants. (2-2) 3

HOR 3400 Landscape Plants I: Woody: Upon completion of this course the student should be able to: (1) identify by sight the 86 selected plants; (2) list the physical characteristics, cultural requirements, and landscape uses of these plants; (3) identify any special remarks regarding these plants. (3-2) 4

HOR 3401 Plant Propagation I: Upon completion of this course the student should be able to: (1) perform the following types of sexual propagation: (a) layering; (b) cuttings; (c) grafting; (d) budding; (e) dividing; (2) perform sexual (seed) propagation of ornamental plants; (3) select, use, and maintain equipment and supplies used in plant propagation; (4) choose the correct propagation method for a variety of ornamental plants. (2-4) 4

HOR 3404 Landscape Plants II: Woody & Herbaceous: Upon completion of this course the student should be able to: (1) identify by sight the 120 selected plants; (2) list the physical characteristics, cultural requirements and landscape use of these plants; (3) identify any special remarks regarding these plants. (3-2) 4

HOR 3405 Grounds Maintenance II: Upon completion of this course the student should be able to: (1) explain the purpose of and list sources of the major, minor, and trace nutrient elements; (2) identify deficiency symptoms of nutrient elements; (3) perform simple soil tests for nutrient content and pH; (4) select and apply correctly fertilizers to selected ornamentals; (5) identify and execute preventive and corrective controls of selected insect pests and ornamentals; (6) identify and execute preventive and corrective controls of selected disease pests of ornamentals; (7) select, use, and maintain equipment items and materials used in the above operations. (2-4) 4

HOR 3410 Turf Management: Upon completion of this course the student should be able to: (1) identify at least 7 selected turf grasses; (2) list the cultural requirements for each of the seven (7) selected turf grasses; (3) establish turf grasses by 4 different methods; (4) maintain turf grass by being able to select and use turf equipment and supplies; (5) identify and control common turf pests. (2-4) 4

HOR 3503 Nursery Technology: Upon completion of this course the student should be able to: (1) perform the day to day operations used to grow, maintain and harvest both container and field grown nursery stock; (2) select, use and maintain nursery equipment and supplies; (3) discuss the various kinds of nurseries; (4) discuss marketing of nursery products and services; (5) perform garden center operations. (3-4) 5

HOR 3504 Grounds Maintenance I: Upon completion of this course the student should be able to: (1) identify problems of and execute preventive and corrective controls of weed problems common to ornamentals; (2) select and apply mulches for usual maintenance situations; (3) identify and execute preventive and corrective controls of water problems in grounds maintenance; (4) prune all plants on a selected list of ornamentals; (5) select, use, and maintain equipment items used in the above operations. (3-4) 5

HOR 3505 Landscape Gardening: Upon completion of this course the student should be able to: (1) analyze the landscape potential of a landscape project area; (2) prepare detailed landscape plans, plant lists, and planting specifications; (3) install a landscape planting; (4) perform basic landscape construction. Prerequisite: HOR 3302. (3-4) 5

HOR 4100 Horticulture Seminar: Upon completion of this course the student should be able to: (1) demonstrate knowledge of various horticulture job classification responsibilities and rewards that are entailed in each; (2) demonstrate knowledge of various horticultural organizations and agencies. (1-0) 1

HOR 4200 Co-Op Seminar: Upon completion of this course the student should: (1) describe tasks and competencies under various jobs performed during co-op experience; (2) discuss employee-employer relationships; (3) complete a job application and simulated job interview. Co-requisite: HOR 3205. (2-0) 2

HOR 4203 Advanced Floral Design: Upon completion of this course the student should be able to: (1) demonstrate skill in the processing of cut flowers; (2) demonstrate skills in the following floral design areas: (a) container setup and selection (b) holiday arrangements (c) advanced wedding arrangements (d) advanced funeral pieces (e) dried flower, silk, and twig arrangements (f) mats, brooms, and fruit arrangements (g) oriental and free form creative design pieces. Prerequisite: HOR 3210 or Permission of Instructor. (1-2) 2

HOR 4300 Arboriculture: Upon completion of this course the student should be able to: (1) identify growth characteristics of selected shade and ornamental trees; (2) select and apply correct tree maintenance procedures to include: (a) fertilizing; (b) pruning; (c) pest prevention and control; (3) know and apply basic safety rules of climbing and felling. (2-2) 3

HOR 4404 Plant Propagation II: Upon completion of this course the student should be able to: (1) perform advanced asexual propagation techniques to include: (a) 5 types of layers; (b) 7 types of cuttings; (c) 6 types of grafts and/or buds; and (d) aseptic cultures; (2) perform advanced sexual propagation techniques to include: (a) selected pollination; (b) scarification; (c) stratification; (3) complete detailed propagation project as assigned by the instructor. Prerequisite: 3401. (2-4) 4

HOR 4411 Greenhouse Horticulture: Upon completion of this course the student should be able to: (1) demonstrate a working knowledge of greenhouse construction, materials, and equipment; (2) discuss the physical and cultural needs of greenhouse plants; (3) demonstrate a working knowledge of the growing of cut flower, bedding plant, seasonal pot plant; and foliage plant crops. (2-4) 4

Health, Physical Education And Recreation

HPE 1100 Individual Activity: These are exploratory courses taught on a temporary basis for possible inclusion in the regular curriculum approved by the Health, Physical Education and Recreation Division for a particular student. Prerequisite: Divisional consent. (0-3) 1

HPE 1101 Archery: Upon completion of this course the student should be able to demonstrate the fundamentals in using the bow and arrow and point-of-aim, and will examine other methods used in archery. (0-3) 1

HPE 1103 Water Skiing: An introduction to the sport of water skiing. The student will learn care of equipment, safety procedures and development of fundamental skills of water skiing. Prerequisite: Demonstrated swimming proficiency and Divisional consent. (0-3) 1

HPE 1104 Fencing — Beginning: Introduction to the art of fencing. The student will perform elementary foil technique and be introduced to competitive fencing. (0-3) 1

HPE 1105 Fencing — Intermediate: This course is a continuation of beginning fencing. The student will perform foil techniques such as the balastra, the fleche, the croise, taking the blade and competitive fencing. Prerequisite HPE 1104 or equivalent. (Self-supporting)* (0-3) 1

HPE 1106 Fencing — Advanced: In this advanced course the student should be able to execute elementary sabre techniques; the on guard position; the lunge; the cut at head, crest and flank; various parries; more advanced foil techniques; and engage in advanced competitive fencing. Prerequisite HPE 1105 or equivalent. (Self-supporting)* (0-3) 1

HPE 1107 Self-Defense And Physical Conditioning — Beginning: The first in a series of three courses designed to promote physical well-being and increased self-confidence through the acquisition of skills in self-defense. Upon completion of the course the student should be able to demonstrate stances, blocks, punches, walking and kicks. (0-3) 1

HPE 1108 Self-Defense And Physical Conditioning — Intermediate: A continuation of the beginning course in which the student should execute pre-arranging and will start first forms and katas. Prerequisite: HPE 1107 or equivalent. (0-3) 1

HPE 1109 Self-Defense And Physical Conditioning — Advanced: The student will review skills learned in the intermediate course and will perform advanced new techniques and skills in free fighting and defense against weapons. Prerequisite: HPE 1108 or equivalent. (0-3) 1

Course Descriptions

HPE 1110 Camping, Trailer: Pre-season and post season preparation for your recreation vehicle. The student should be able to do basic hook-ups; do-it-yourself maintenance and be able to utilize information on camping and trailering. (0-3) 1

HPE 1111 Scuba Diving: An introduction to the sport of scuba diving. The student will be introduced to the use of the face mask, snorkel, fins, and other scuba gear. Prerequisite: Demonstrated swimming proficiency and consent. (0-3) 1

HPE 1114 Snow Skiing — Beginning: Instruction in the proper fundamentals of skiing, safety and etiquette. The student will receive instruction in skiing, parallel turns, christies, basic jump and introductory wedelin. (0-3) 1

HPE 1115 Snow Skiing — Intermediate: In this second course in snow skiing, the student will progress to longer skis, concentrating on improving traverse and side slip; expand on angulation, pole plant and unweighting; and engage in an intermediate exercise program in order to handle more advanced terrain. Prerequisite: HPE 1114 or equivalent. (Self-supporting)* (0-3) 1

HPE 1116 Snow Skiing — Advanced: In this advanced course in snow skiing, the student will be introduced to Slalom and Giant Slalom techniques, elementary downhill techniques; trick skiing and jumping. Prerequisite: HPE 1115 or equivalent. (Self-supporting)* (0-3) 1

HPE 1117 Ice Skating — Beginning: The student will be introduced to basic ice skating maneuvers such as forward and backward; stroking one foot glide, cross overs, arabesque, and backward wiggle — giving solid foundation to build in future ice skating activities. (0-3) 1

HPE 1118 Ice Skating — Intermediate: This second course in ice skating will provide the student with opportunities to learn and exhibit advanced maneuvers such as backward stroking, backward scooters, forward outside and inside eights, backward arabesque, and right-left forward inside mohawk followed by backward-outside mohawk. Prerequisite: HPE 1117 or equivalent. (Self-supporting)* (0-3) 1

HPE 1119 Ice Skating — Advanced: This advanced course in ice skating will provide further opportunities for the student to learn and exhibit advanced maneuvers including two foot spin, forward-backward chasses in four dance positions, the Dutch Waltz, Cross Rolls in dance position, and Waltz and Ballet Jump. Prerequisite: HPE 1118 or equivalent. (Self-supporting)* (0-3) 1

HPE 1123 Physical Fitness — Beginning: The student should be able: (1) to identify positive health practices in physical activity, diet, rest and relaxation; (2) to show evidence of improved cardiovascular endurance, upper body strength, and flexibility; (3) to plan a training program which will result in the achievement and/or maintenance of a high level of health fitness. (0-3) 1

HPE 1124 Physical Fitness — Intermediate: Upon successful completion of this course the student should be able to take each component of fitness (strength, cardiovascular and muscular endurance, and flexibility) and perform specific exercises related to each. The student will be asked to continue development of a personal fitness program. Prerequisite: HPE 1123. (0-3) 1

HPE 1126 Social Dance — Beginning: A course in the development and successful performance of dance skills with an accent on social and recreational values. The student will learn the Fox Trot, Waltz, Lindy, Cha-Cha, and Rumba. (0-3) 1

HPE 1127 Social Dance — Advance Beginner: The basic dance student will learn to perform more difficult steps and types of dance including the Tango, Samba, Polka and the Discotheque. Prerequisite: HPE 1126 or equivalent. (Self-supporting)* (0-3) 1

HPE 1128 Social Dance — Intermediate: This is a continuation of HPE 1127 with the addition of more difficult steps to the dances learned in that course. The student will learn to perform basic steps in the Charleston. Prerequisite: HPE 1127 or equivalent. (Self-supporting)* (0-3) 1

HPE 1129 Social Dance — Advanced: This is an advanced study of popular social dances designed to instruct the experienced student in advanced steps and to polish the dancer's technique. The student will learn to perform basic steps in the Merengue and the Bossa-Nova. Prerequisite: HPE 1128 or equivalent. (Self-supporting)* (0-3) 1

HPE 1131 Current Trends In Social Dance: The student will study current issues in Social Dance emphasizing Modern Disco dancing techniques and methods. This course is designed for adults of all ages. After successfully completing the course the student will be able to demonstrate current disco dance steps; be able to self-choreograph their own freestyle routines. (0-3) 1

HPE 1134 Basic Course Of American Square Dancing: A course consisting of the first 50 of the basic fundamental movements of square dancing. The course stresses the importance of dancing well and emphasis is placed on smoothness in the dance. (0-3) 1

HPE 1135 Extended Basic Course Of American Square Dancing: This is the second or intermediate phase of the Square Dance Program. The student will be introduced to Couple Right Hand Star, Ladies Chain Left and Right, Ocean Wave, Clover Leaf and other popular movements on this level. Prerequisite: HPE 1134 or equivalent. (Self-supporting)* (0-3) 1

HPE 1136 Advanced Basic Course Of American Square Dancing: This is the third or advanced phase of the Square Dance Program. The student will be introduced to Allemande "O", Spin The Top, Dixie Style Ocean Wave and other advanced basic steps. Prerequisite: HPE 1135 or equivalent. (Self-supporting)* (0-3) 1

HPE 1137 Exploratory Square Dance Class: This is a continuing or "terminal" class for students who have completed the basic, extended basic and advanced basic courses. The student will explore new and experimental basic movements as they are developed and introduced into Modern Square Dancing such as Sashay Turn, Dixie Daisy, Fan the Top, Divide the Star, Hero and others. Prerequisite: HPE 1136 or equivalent. (Self-supporting)* (0-3) 1

HPE 1138 Clogging — Beginning: Upon successful completion of this course the student should be able to demonstrate the basic techniques of clogging, dance routines used by clogging teams, and should demonstrate improved rhythm. (0-3) 1

HPE 1139 Intermediate Clogging: Upon completion of this course the student should be able: (1) to perform all basic steps from Beginning Clogging; (2) to perform intermediate and advanced steps in Clogging; (3) to develop and exhibit simple precision routines; (4) to perform intermediate Square Dance Routines; (5) to design their own routines from steps presented. Prerequisite: HPE 1138 or equivalent. (Self-supporting)* (0-3) 1

HPE 1140 Self Protection For Women: The student should be able to identify various alternatives for women to use in case of personal attack, particularly stressing counter-attack for as many different situations as possible, based on simplified techniques of Kung Fu. Upon completion of course student will be able to perform techniques to use in specific situations and perform various kicks, blocks, etc. (0-3) 1

HPE 1141 Jogging: Upon completion of this course the student should develop a short-term running/jogging program realistic for the individual. Demonstrate improved stamina (using the Cooper 12 minute test at end-of-quarter). Demonstrate each of the basic 6 stretching and conditioning exercises for the prevention of injury. Demonstrate on a written test, knowledge of benefits of running/jogging on mind and body. (0-3) 1

HPE 1144 Golf — Beginning: The student is introduced to the fundamentals of the golf swing, game rules and etiquette. Emphasis is placed on learning to swing properly, hitting the ball, and putting these skills into practice on the Par 3 golf course. (0-3) 1

HPE 1145 Golf — Intermediate: The student will review fundamentals of the golf swing with emphasis on short game (chipping and putting) and lowering golf scores, plus practical playing experience. Prerequisite: HPE 1174 or equivalent. (Self-supporting)* (0-3) 1

HPE 1146 Golf — Advanced: The student will be introduced to advanced instruction on special shots such as deliberate hook or slice, sand shots, playing in the wind, tips to lower scores etc.; and playing lessons on the golf course to teach putting all shots together. Prerequisite HPE 1145 or equivalent. (Self-supporting)* (0-3) 1

HPE 1147 Tennis — Beginning: The student is introduced to elementary skills for ground strokes including the introduction of the serve, volley, smash and lob. Rules and the elementary strategy for singles and doubles are also taught. (0-3) 1

HPE 1148 Tennis — Intermediate: This course continues the development of the student's skill to a higher level of play. The introduction of different types of shots and the basic strategy for singles and doubles are presented. Prerequisite HPE 1147 or equivalent. (Self-supporting)* (0-3) 1

HPE 1149 Tennis — Advanced: In this advanced course the student will utilize advanced shots, spins, pace and strategy. Prerequisite HPE 1148 or equivalent. (Self-supporting)* (0-3) 1

HPE 1154 Tap Dancing — Beginning: Students should be able to perform elemental constructions, motions and patterns in tap dancing. (0-3) 1

HPE 1155 Tap Dancing — Intermediate: The course utilizes basic principles from Beginner tap in studies of more complex patterns. Self-choreography and extensive exercise discipline are introduced. The student will begin individual style development. Prerequisite HPE 1154 or equivalent. (Self-supporting)* (0-3) 1

HPE 1156 Tap Dancing — Advanced: This advanced course allows the student freedom for self expression and style. Attention is given to detail in tap construction. Prerequisite HPE 1155 or equivalent. (Self-supporting)* (0-3) 1

HPE 1157 Jazz Dance — Beginning: The student will study Jazz Dance art forms which connect to other art forms through observation, participation and commentary. (0-3) 1

HPE 1158 Jazz Dance — Intermediate: The student will utilize principles of jazz dance at the beginner level in developing self-disciplined standards in exercising, learning self-choreography and performance. Prerequisite HPE 1157 or equivalent. (Self-supporting)* (0-3) 1

HPE 1159 Jazz Dance — Advanced: This is an open end seminar class to provide the student with variable content and an experimental atmosphere. The student will prepare independent programs for evaluation. Field trips will be scheduled to encourage civic awareness of dance. Prerequisite HPE 1158 or equivalent. (Self-supporting)* (0-3) 1

HPE 1164 Yoga — Beginning: The student will become acquainted with basic disciplines of Yoga, including physical postures, proper breathing techniques, attitudes of positive thinking and confident self-awareness, and techniques to improve relaxation and mental concentration. (0-3) 1

HPE 1165 Yoga — Intermediate: A continuation of the beginning course in which the student will acquire more detail on physical postures, breathing, relaxation and mental concentration. Prerequisite HPE 1164 or equivalent. (Self-supporting)* (0-3) 1

HPE 1166 Yoga — Advanced: The student will learn advanced types of breathing and concentration using sounds. Difficult physical postures such as headstands are presented. Prerequisite HPE 1165 or equivalent. (Self-supporting)* (0-3) 1

HPE 1170 Aerobics: The student should be able to demonstrate exercises for physical conditioning by use of movement with music. Students will participate in vigorous exercise for cardiovascular endurance and calisthenic exercise for toning and firming muscles. (0-3) 1

HPE 1174 Mountaineering I: A course to introduce the novice climber to fundamental mountaineering techniques. Students will use techniques included in such areas as mountain travel, basic climbing and rappelling, bivouacs, knots, and equipment. (0-3) 1

HPE 1175 Mountaineering II: This is a course designed for advanced students in perfecting their skills in the following areas: general climbing, lead climbing, party climbing, and summit expeditions. Prerequisite HPE 1174 or equivalent. (Self-supporting)* (0-3) 1

HPE 1176 Outdoor Skills I (Basic): Students will exhibit a basic understanding of hiking, backpacking, and camping. Each of these efforts is supported by classes in group dynamics, fire building, shelter construction, equipment management, map and compass reading, land navigation and First Aid. (0-3) 1

HPE 1177 Outdoor Skills II: The student will combine the practical application of planning and execution of all techniques necessary to accomplish a 24-48 hour trip into a wilderness area. Prerequisite HPE 1176 or equivalent. (Self-supporting)* (0-3) 1

HPE 1178 Horsback Riding — Beginning: Students should be able to demonstrate the fundamental skills and etiquette of riding. Instruction will include walking, trotting, cantering and jumping. (0-3) 1

HPE 1179 Horseback Riding — Advanced: The student will continue development of skills in the art of riding and handling horses such as riding with double reins on pelham, using direct and indirect rein; working on saddle seat for form and equitation; and riding and schooling a green horse. Prerequisite HPE 1178 or equivalent. (Self-supporting)* (0-3) 1

HPE 1184 Swimming — Beginner: For non swimmers and beginners who need more confidence in the water. This course is based upon the American Red Cross programs of instruction. Upon successful completion of this course the student should be able to demonstrate back float, crawl stroke — 20 yards and safety skills. (0-3) 1

HPE 1185 Swimming — Advanced Beginner: For the beginner swimmer who needs to increase skills for full confidence in deep water. Based on American Red Cross programs of instruction. Student should be able to demonstrate treading water, survival floating, elementary backstroke and crawl stroke. Prerequisite: HPE 1184 or equivalent. (0-3) 1

HPE 1186 Swimming — Intermediate: To perfect the four basic strokes (breast stroke, sidestroke, crawl stroke and back crawl). The student should be able to demonstrate scissors kick, breast stroke kick, and underwater swim. This course is based on the American Red Cross programs of instruction and is the prerequisite for the swimmer and/or Life Saving courses. Prerequisite: HPE 1185 or equivalent. (0-3) 1

HPE 1187 Swimming — Swimmer: For the swimmer who wants to perfect strokes leading to the American Red Cross Water Safety Instructor Certificate. Student should be able to swim the breast stroke — 100 yards; sidestroke — 100 yards; crawl stroke — 100 yards; back crawl — 100 yards; and swim 10 minutes. Prerequisite: HPE 1186. (0-3) 1

HPE 1188 Swimming — Lifesaving: A prerequisite course for the American Red Cross Water Safety Instructor Certificate Basic requirements for Life Guard Duty. The student should be able to demonstrate front and rear approaches, cross chest carry, and resuscitation. Prerequisite: HPE 1186. (0-3) 1

HPE 1189 Water Safety Instructor: For the student desiring to teach swimming and/or Life Saving and/or Life Guard Duty. The student should be able to demonstrate beginner skills, swimming strokes, and lifesaving skills. Prerequisite: HPE 1188. (0-3) 1

HPE 1193 Slimnastics — Beginning: Upon successful completion of this course the student should have a program of exercise in physical conditioning which should result in firming muscles, improving coordination and posture. The student will be presented information on correct exercises to perform. (0-3) 1

HPE 1194 Slimnastics — Intermediate: Upon successful completion of this course the student should be able to build on the exercises learned in HPE 1193. In addition the student will be able to explain the relationship between fitness and health as it relates to a person's life style, increased movement, and body contour. Prerequisite: HPE 1193. (0-3) 1

HPE 1195 Slimnastics — Advanced: Upon successful completion of this course the student should be able to identify and perform specific exercises for various parts of the body, identify factors that motivate a person to learn and maintain an exercise program, design a personal exercise program based on individual lifestyles and needs, and identify precautions to be considered in exercising. Prerequisite: HPE 1194. (0-3) 1

HPE 1196 Gymnastics — Beginning: A course designed for teaching the student the fundamentals of gymnastics on the mats, parallel bars, side horse, and trampoline. (0-3) 1

HPE 1197 Gymnastics — Intermediate: The student will review the basic skills in gymnastic tumbling and apparatus and be introduced to intermediate skills such as vaulting skills, side horse and parallel bars for men, free floor exercises, DGWS intermediate routine on uneven parallel bars and balance beam routine for women. Men and women's stunts on the trampoline are presented. Prerequisite: HPE 1196 or equivalent. (0-3) 1

HPE 1198 Bowling — Beginning: The student will be instructed in skills, rules and strategy through films with an opportunity of participation at the bowling lanes. (0-3) 1

HPE 1199 Bowling — Intermediate: In this second course in bowling, the student should demonstrate types of thrown balls; hook, curve, etc; will learn lane etiquette, bowling terms, scorekeeping, and will gain practice in spot bowling for spares, timing, and correcting individual faults. Prerequisite HPE 1198 or equivalent. (Self-supporting)* (0-3) 1

HPE 1404 Introduction To Recreation Services: Upon completion of course the student should be able to identify the types of public and private agencies offering recreational services; to describe the effects leisure time has upon society and the individual; describe the economic importance of recreation; identify the current concepts of recreation present and future trends. (3-3) 4

HPE 1414 Water Activities: Upon completion of course the student should be able to demonstrate skill in specific aquatic and small craft activities; be able to identify elements of a camp waterfront area and a community "learn to swim" program; be able to identify safety precautions in water activities; be able to list the principles of organizing an aquatic program and its operation and maintenance. (2-6) 4

HPE 1504 Relays And Games Of Low Organization And Team Sports: Upon completion of course, student should be able to identify the six types of relays, be able to demonstrate and teach skills involved in self-testing activities, locomotor skills, team sports, relays involving equipment, obstacle relays and novelty relays; demonstrate and teach skills involved in specific team sports. (3-6) 5

HPE 2112 Canoeing — Basic: Upon successful completion of this course the student should be able to demonstrate safe handling skills, self-rescue skills, and ways to apply the basic skills. Students should be able to name the parts of a canoe and be able to perform the following strokes: bow, diagonal draw, pushover, sculling, reverse sculling, sweeps, reverse sweeps and J. Prerequisite: Beginner Swimmer (HPE 1184) or equivalent. (0-3) 1

HPE 2113 Canoeing — Rivers: Upon successful completion of this course the student should be able to perform the pry, draw, cross draw, rudder, backwater, and ferrying strokes on Class I rivers. Prerequisite: HPE 2112. (0-3) 1

HPE 2114 Canoeing — Basic White Water: Upon successful completion of this course the student should be able to demonstrate successful negotiation of basic Class II, and III white water rivers and be able to identify safety rules, select proper equipment, and perform specific strokes. Prerequisite: HPE 2113. (0-3) 1

HPE 2200 Sports Officiating: After completing this course the student should be able to identify responsibilities of officiating; identify rules of the game; demonstrate good mechanics of officiating; demonstrate alertness, good judgment and decisiveness in calls; demonstrate poise; demonstrate consistency and good reaction time in calls. (1-3) 2

HPE 2204 Prevention And Treatment Of Athletic Injuries: Upon completion of this course the student should be able to identify area of athletic injury; be able to give first aid for these injuries; be able to select correct equipment and supplies to use; be able to list preventive measures for specific injuries; to identify precautions to take in working with injuries; to be able to work with person on recuperation. Prerequisite: HED 1204 (1-3) 2

HPE 2314 Individual Lifetime Recreation Activities: Upon completion of this course student should be able to list rules of specific individual activities such as archery, golf and tennis; be able to demonstrate all skills involved in the activities; be able to set up and organize a program in community involving individual activities; demonstrate techniques of teaching skills to others; be able to evaluate effectiveness of program organized. (2-3) 3

HPE 2315 Scheduling Special Events And Tournaments: Upon completion of this course the student should be able to set up specific types of tournament competitions; to design and present an original special event project; to demonstrate skill in organizing specific tournaments. (2-3) 3

HPE 2325 Introduction To Outdoor Education: Upon completion of this course the student should be able to identify outdoor education resources; participate in on-site visits, and set up camp-sites; design a typical (5) five day program for a particular population group; be able to utilize specific mountaineering techniques. (2-3) 3

HPE 2424 Program Planning And Organization: After completing this course the student should be able to plan and organize a recreation program; be able to identify those factors to consider in program planning — example: age, sex, skill; be able to select appropriate facilities and equipment for program; be able to prepare records and reports associated with program; demonstrate evaluation methods for program plan. (3-3) 4

HPE 2434 Recreation And Special Health Problems: Upon completion of this course the student should be able to identify recreation services already available to groups with specific health problems; be able to list principles of recreation programming; be able to identify and describe specific health problems — their causes, signs and symptoms; be able to design a plan for selected groups. (3-3) 4

HPE 2445 Principles Of Body Mechanics And Physical Fitness: Upon completion of course, student should be able to administer and interpret specific fitness tests; be able to define components of fitness; be able to write and organize a body mechanics and fitness program for a group of people; be able to identify physical effects of specific types of exercise; be able to list preventive aspects of fitness and coronary heart disease; be able to describe a weight reduction plan as it relates to exercise and calories; be able to demonstrate skill in use of weight training equipment. (3-3) 4

*Credit will be given for successful completion of a self-supporting course. No additional credit, however, will be given for repeating same course.

Health Record Clerk

HRC 5200 Professional Interactions And The Health Worker: Upon completion of this course, the student should be able to: discuss skills needed to establish rapport between health worker and patient as well as co-worker; list the effects that behavior of the health worker may have on the well being of the patient; discuss the goal of the health care institution with relationship to the community, the health professional and the patient. (2-0-0) 2

HRC 5300 Orientation To Health Record Clerk: At the completion of this course, the student should be able to: (1) describe the structure and functions of the different types of medical facilities; (2) discuss the job description of personnel who work with the health record; (3) identify the qualifications required of a health record clerk; (4) demonstrate good interpersonal relationships in given situations. (2-2-0) 3

HRC 5400 Receptionists Skills: At the completion of this course the student should be able to: (1) perform the receptionist duties and assume the responsibilities of this position in a medical facility; (2) explain various types of medical insurance and correctly complete insurance claim forms for each. (2-4-0) 4

HRC 5401 Unit Clerk Procedures: At the completion of this course, the student should be able to perform the clerking tasks that are routinely done on the nursing unit of a medical facility. (2-4-0) 4

Hotel-Restaurant Management

HRM 3300 Introduction To Hotel/Restaurant Management: Upon successful completion of this course the student should be able to compare the present day operations of inns and restaurants to those of the past; define the different types of restaurant and food services; identify the positions within hotels and restaurants; compare the departments within a hotel and restaurant; distinguish between franchise and individually owned properties; assess future opportunity in a challenging and rewarding career with the hospitality industry. (3-0) 3

HRM 3301 Financial And Legal Aspects Of Innkeeping: Upon successful completion of the course the student should be able to assemble and organize a system to prevent law suits and losses costly to today's inns; relate local, state and federal regulations to operations of a modern inn; describe different instruments of finance that are used in the operation of a modern inn. (3-0) 3

HRM 3104 Speaker Seminar I: Upon successful completion of the course the student should have been exposed to the day to day tasks of managing a hotel or restaurant through guest speakers and will become acquainted with the problems and solutions experienced speakers will share with the students. (1-0) 1

HRM 4200 Individual Study: The student will conduct career related projects as described in a training plan. The training plan, designed to meet needs not met by other offerings, will be developed by the program director and an appropriate training sponsor in the business community. Each student will work under the direct supervision of the program director. Approval of the sponsor, Division Head, and appropriate Vice President is required.

HRM 4301 Housekeeping Procedures: Upon successful completion of the course students should have demonstrated the ability to plan an organized area for the housekeeping department; implement a time study and procedures standard for cleaning a motel room; identify hazards in a motel; develop standards and procedures for purchasing and inventory controls; implement procedures for the reporting of repairs and preventive maintenance needs. (3-0) 3

HRM 4302 Hotel/Restaurant Management Related Problems: Upon successful completion of the course the student should be able to compare circumstances of hotel/restaurant operations to everyday work situations; institute a workable plan to control and maintain good employee morale; and write and identify standards of dress and conduct. Through role playing and analysis the student will become familiar with actual situations which will be encountered in future employment. (3-0) 3

HRM 4804 Hotel/Restaurant Management Practicum I: Upon successful completion of the course the student should be able to exhibit positive work attitudes and write job descriptions on the departments within the hotels/motels assigned during clinical experience. Lab or clinical experience will consist of on-the-job training within the following areas: Housekeeping, Superintendent of Transportation and Services, Maintenance and Front Office. (3-15) 8

HRM 4805 Hotel/Restaurant Management Practicum II: A continuation of Work Experience Seminar I with continued emphasis on work attitudes and job descriptions. The student will be assigned to the restaurant of a hotel/motel and will cover the following areas: Dishwashing Department, Salad Department, Cooks Helper, Chef's Helper, Chef's Assistant, Dining Room-Busboy, Dining Room — Waiter/Waitress and Bar/Lounge-Bartender. (3-15) 8

HRM 4806 Hotel/Restaurant Management Practicum III: A continuation of Work Experience Seminar II. Emphasis in this course will be placed on the student becoming familiar with the following areas: Accounting-Auditors Office, Credit Department, Personnel Department, and General Manager. Students will be assigned to hotels/motels within the Charlotte area to complete their clinical experience. A week of analysis and evaluation is included to assist the graduate in ascertaining job opportunities in the hospitality industry. (3-15) 8

Human Services

HSA 3202 Crisis Intervention: Upon completion of this course, the student should be able to: (1) identify and discuss the emotional and physical bases of stress/anxiety; (2) identify and define real-life crises of: alcohol and drug abuse, bereavement, suicide, grief and loss, individual and group psychiatric emergencies, and special problems; (3) identify and discuss the major factors and characteristics of a disaster and community crisis to include: psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; (4) identify appropriate methods of crisis intervention; (5) demonstrate appropriate skills of crisis intervention. (2-0-0) 2

HSA 3300 Aging In Contemporary Society: Upon completion of this course the student should be able to: (1) prepare a written and/or recorded case study of an older adult, preferably over the age of seventy-five and comment in detail on the following areas as they relate to subject: demography, historical aspects, psycho/social processes, biological and intellectual aspects, role of and effect of job career changes, retirement, leisure activities and the aspects of death, dying and bereavement. Prerequisite: Instructor consent. (3-0-0) 3

HSA 3301 The Older Adult In Your Community: Upon completion of this course the student should be able to: (1) prepare a written and/or recorded case/observation study of an older adult and comment on the following areas as they relate to the subject of the study supplemented by photograph and short recorded comments from subject or relevant person: demography, biological and psychological aspects, psycho/social and societal aspects. (3-0-0) 3

HSA 3303 Helping Relationships And The Older Adult: Upon completion of this course the student should be able to: (1) describe the various forms of non-verbal communication which are cues to personality and needs of a helpee; (2) describe particular needs and behaviors of the older adult; (3) demonstrate effective and appropriate interviewing skills; (3A) demonstrate ability to use appropriate leads, responses, and questions; (4) demonstrate effective helping skills in a problem-oriented helping relationship; (4A) demonstrate prehelping skills, attending skills, and appropriate responses. (3-0-0) 3

HSA 3310 The Exceptional Child: Upon completion of this course the student should be able to: (1) identify and discuss characteristics of developmental exceptionalities; (2) identify community and state resources available for families with exceptional children; (3) identify a variety of activities appropriate for children who are exceptional in personality and/or physical development; (4) identify ways exceptional children use materials, supplies, and equipment differently from other children; (5) identify techniques of working with parents to help lessen their apprehensions about their child's condition; (6) define the procedures for referring a child to special services. (3-0-0) 3

HSA 3311 Materials And Activities For The Young Child: Upon completion of this course the student should be able to: (1) describe the role of play and play materials in the development of the young child; (2) describe the teacher's role in fostering and guiding children's creative ability; (3) identify raw art materials, their potential and use with the young child; (4) identify the principles and practices of music, movement, sound and rhythm for the young child; (5) identify the process of language development through the use of children's books, story-telling, dramatization; (6) identify appropriate science and math experiences and materials; (7) identify and discuss techniques for implementing a stimulating outdoor learning environment; (8) describe and discuss importance of manipulative toys and blocks in the development of the young child. (3-0-0) 3

HSA 3312 Education For Young Child: Upon completion of this course the student should be able to: (1) identify recent trends affecting early childhood education, i.e., research political and sociological factors; (2) identify and discuss four educational models for young children; (3) describe and discuss the role of teacher, child, and environment in four educational models; (4) identify and describe one's own philosophy of education. (3-0-0) 3

HSA 3313 The Dynamics Of Death And Dying: Upon completion of this course the student should be able to: (1) describe the various stages involved in the drama of dying; (2) identify and describe customs that have evolved as means of coping with death; (3) describe various legal and technical matters related to the death of a relative. The student should be able to understand death and dying from several different perspectives and relate the process to the total life cycle. The student will gain awareness of the process of dying that will hopefully reduce the fear of death. (3-0-0) 3

HSA 3322 Human Sexuality In The Helping Skills: Upon completion of this course the student should be able to: (1) demonstrate effective skills in a helping situation concerning sexuality; (2) identify major sexual behaviors and needs found within each client group; (3) list the psychological and sociological factors culminating in variation of sex role behaviors in males and females, i.e., masculine role and behavior, feminine role and behavior; (4) demonstrate self awareness and personal growth by formulating a philosophy of interpersonal sexuality applicable to the student's work situation. (3-0-0) 3

HSA 3323 Legal Aspects Of Social Welfare: Upon completion of this course the student should be able to: (1) describe and explain the Protective Service Law for children and adults and list responsibilities and limitations which affect social workers; (2) list the steps of preparation of records and information gathering for use in court; (3) explain the admissibility of evidence; (4) describe the role of the social worker as a witness; (5) explain the custody rights of children, the rights of parents and the rights of the agency; (6) explain and describe the adoption laws of the State of North Carolina, the validity of the state law, and the rights of the unwed father; (7) discuss the responsibility of paternity; (8) discuss involuntary commitments: legal base, purposes, and the social worker's responsibilities and limitations as guardians and trustees. (3-0-0) 3

HSA 3340 Client Group Dynamics: Upon completion of this course, the students should be able to demonstrate their own style of group leadership in working with client groups, identify various behavioral roles of clients within groups and demonstrate methods of motivating clients and resolving conflicts within client group interactions. Prerequisite: HSA 3501, HSA 3502, or consent of Program Director. (3-0-0) 3

HSA 3341 Interpersonal Relationships II: Upon completion of this course, students should be able to distinguish between assertive, passive and aggressive behaviors, develop their own assertive skills, and use these skills in professional and personal behavior. Prerequisite: HSA 3501, HSA 3502, or consent of Program Director (3-0-0) 3

HSA 3350 Growth And Development Of Mothers And Fathers: Upon completion of this course, the student should be able to: (1) identify social factors and changes affecting modern parenthood; (2) discuss parental expectations and roles and needs; (3) describe changing roles of parents, related to changing characteristics of children at various developmental stages; (4) identify and discuss specific concerns of parents. (3-0-0) 3

HSA 3360 Understanding Adolescence: Upon completion of this course, the student should be able to: (1) differentiate major developmental characteristics associated with pre-adolescence, early adolescence, late adolescence stages; (2) identify and describe specific characteristics of the adolescent in the areas of physical, cognitive, social, emotional and moral development; (3) identify and discuss the inter-relationship between the social, emotional, cognitive and physical development of the adolescent; (4) identify and describe social and familial factors which prevent and encourage maximum growth and development of the adolescent. (3-0-0) 3

HSA 3370 Practical Problems In Family Living: Upon completion of this course, the student should be able to: (1) identify and discuss characteristics of the child at different stages in areas of social, cognitive, emotional, language, moral and physical development; (2) identify and differentiate the child's normal developmental behaviors from problem behaviors and describe helpful parental responses to these behaviors; (3) identify and discuss parenting behaviors and techniques that prevent and encourage optimal growth and development of the child; (4) discuss positive parental behaviors in specific family situations — sibling rivalry, new baby, family crises, etc. (3-0-0) 3

HSA 3380 The Growing Child: Upon completion of this course, the student should be able to identify basic principles underlying human growth and developmental stages and critical periods during prenatal development, developmental needs and characteristics of the infant, toddler and pre-school child. (3-0-0) 3

HSA 3402 Sign Language I: Upon completion of this course the student should be able to: (1) demonstrate communication skills on a non-technical level with members of the deaf population in both expressive and receptive American Sign Language; (2) interact with deaf persons on a one-to-one basis; (3) demonstrate an awareness and relate to the difficulties of a deaf person growing up in a hearing society; (4) demonstrate a practical sign vocabulary of between 300-375 words. (3-2-0) 4

HSA 3404 Sign Language II: Upon completion of this course the student will demonstrate: (1) accuracy and clarity in fingerspelling with an average of better than 75% on both expressive and receptive tests; (2) a practical sign vocabulary of between 500-750 words; (3) the ability to discuss the psychological implications of deafness; (4) the ability to discuss the various sign systems; (5) a working competence with prefixes and suffixes as shown in written tests and expressive translation with an average of better than 75%. Prerequisite: HSA 3402, Sign Language or instructor consent. (3-2-0) 4

HSA 3405 Sign Language III: Upon successful completion of this course the student will demonstrate: (1) a working competence with approximately 200 basic sign language idioms as shown in both written tests and expressive signing with an average of better than 75%; (2) a working competence with approximately 200 English idioms as shown in both written tests and expressive signing with an average of better than 75%; (3) the ability to discuss the sociological implications of deafness. Prerequisite: HSA 3402 or instructor consent. (3-2-0) 4

HSA 3414 Helping Relationship, Advanced Technique: Upon completion of this course the student should be able to: (1) identify and distinguish appropriate responses in the initial and continuous helping relationships, to include helper assertiveness and client motivation; (2) discuss the force-field analysis of problem solving, to include: (a) identifying and clarifying the client's problems and establishing the client's priorities, (b) establishing client's goals and implementing tasks, (c) reviewing and evaluating the client's progress; (3) demonstrate a more effective skill of helping by the use of (a) feeling discrimination, (b) concreteness, confrontation, and alternative action, (c) decision making and problem solving. Prerequisite: HSA 3604. (3-0-3) 4

HSA 3415 Helping Relationship: Management Skills: Upon completion of this course the student should be able to: (1) identify and describe factors for successful time management and organization within a helping agency; (2) identify and discuss ethical standards of a helping relationship; (3) identify and discuss methods for selecting, supervising, and evaluating staff members, to include: a) appropriate assertiveness skills and b) instructing and motivating skills; (4) demonstrate appropriate skills of assertiveness, instruction, motivation, and supervision. Prerequisite: HSA 3604 and HSA 3414. (3-0-3) 4

HSA 3421 Helping And Behavioral Stress: Upon completion of this course the student should be able to: (1) identify and discuss the major factors of behavioral and physical development relating to stress/anxiety; (2) identify and define positive and negative factors of stress and identify methods for defining and coping with individual anxiety; (3) identify and define real-life crises of: alcohol and drug abuse, suicide, bereavement, grief and loss, maturation, the family, and individual psychiatric emergencies; (4) define and discuss the association to crisis/stress of: anxiety, defense mechanisms, values and belief systems, needs, and cultural and environmental influences; (5) identify and discuss the major factors and characteristics of a disaster and community crisis, to include: psychological shock, disaster syndrome, variation of victim reaction, and psychological epidemic; (6) identify methods of psychological helping for persons in crisis and appropriateness of such crisis intervention to specific behavioral problems; (7) demonstrate skills of coping with individual anxiety/stress and of helping a stress victim(s), both in non-verbal and verbal response; (8) identify various local agencies dealing with crisis and discuss their function and methods of referral and treatment. (4-0-0) 4

HSA 3501 Introduction To HSA: Upon completion of this course the student should be able to: (1) describe the Human Services Program, including the three option areas; (2) give the four core courses, describe their content and explain the rationale for inclusion as core courses; (3) given an option area, name at least three agencies related to it and describe the type of clients referred to these agencies; (4) correctly describe the procedure for being advised and contracting for field placement; (5) identify the following specific major client groups and the various stresses caused by social, emotional, and physical characteristics associated with each group: (a) Mental Health, (b) Emotionally Disturbed, (c) Alcoholism, (d) Drug Abuse, (e) Sexuality, (f) Mental Retardation and Brain Damage, (g) Epilepsy, (h) Learning Disabilities, (i) Visual Impairment, (j) Hearing and Speech Impairment, (k) Physical Disabilities, (l) Aging; (6) identify specific agencies which offer services to the above client groups. Prerequisite: Permission of Program Director Only. (5-0-0) 5

HSA 3502 Interpersonal Relationships I: Upon completion of this course the student should be able to: (1) demonstrate five skills of non-verbal communications; (2) demonstrate five skills of verbal communications; (3) identify and list at least three personal strengths and three weaknesses in relationships with others; (4) identify five personal values; (5) identify four personal behavioral goals; (6) demonstrate ability to change two identified negative behaviors and develop two identified positive behaviors; (7) list and describe Maslow's Hierarchy of Needs; (8) list Erickson's eight stages of development; (9) list and describe Powell's five levels of communication; (10) identify and describe five games people play and the defense mechanism involved in each. Prerequisite: HSA 3501. (5-0-0) 5

HSA 3503 Introduction To Day Care Administration: Upon completion of this course the student should be able to: (1) describe the steps involved in setting up child care programs according to state and federal guidelines; (2) describe the management practices required in quality child care programs including fiscal budgets, records, ordering of supplies, equipment, scheduling, operational policies; (3) describe personnel practices required in quality child care programs, including job descriptions, interviewing techniques, staff evaluations, staff development; (4) describe parent and community resources available to child care centers. (3-0-6) 5

HSA 3510 School Age Child Care: Upon completion of this course the student should be able to: (1) describe the growth and development of the school aged child, with emphasis on the middle and late childhood years; (2) identify the physical, social, emotional, and intellectual needs of the school aged child, (3) describe the principles underlying an after-school care program; (4) plan particular segments of a program for the school aged child; (5) implement particular segments of a program for the school-aged child. (3-0-6) 5

HSA 3511 Infant And Toddler Development: Upon completion of this course the student should be able to: (1) describe the normal growth and development of the infant; (2) identify the needs of the developing infant; (3) describe the normal growth and development of the toddler; (4) identify the needs of the developing toddler; (5) list and discuss the principles underlying a program for infants and toddlers; (6) plan particular segments of a program for infants and toddlers; (7) implement particular segments of a program for infants and toddlers. (3-0-6) 5

HSA 3514 Introduction To Interpreting: Upon completion of this course the student should be able to: (1) demonstrate basic expressive interpreting and translating skills; (2) define and demonstrate ethical demeanor of professional interpreting. Mock interpreting experiences will be provided. Prerequisite HSA 3404 or instructor consent. (2-6-0) 5

HSA 3515 Interpreting II: Upon successful completion of this course the student should demonstrate: (1) accuracy and clarity in expressive interpreting and translating at a speed of 80-100 WPM; (2) a receptive ability in understanding intent and content in the signed message of a deaf speaker at a rate of 60-74%; (3) through role play, actual experience and written tests, a practical awareness of interpreting in V.R., community agencies, and interview situations: a) the responsibilities of the interpreter, b) the appropriate physical setting, c) the special vocabulary, d) ethics; (4) through role play and actual experience, a practical awareness of oral interpreting and blind/deaf interpreting; (5) expressive and receptive fingerspelling at an intermediate (60-80%) level as indicated by skills tests. Prerequisite: HSA 3514 or instructor consent. (2-6-0) 5

HSA 3516 Interpreting III: Upon successful completion of this course the student should demonstrate: (1) accuracy and clarity in expressive interpreting and translating at a speed of 100-125 words per minute; (2) a receptive ability in understanding the intent of deaf signers at a rate of 75-100%; (3) through role play, actual experience, and written tests, a practical awareness of interpreting in educational, medical, and platform situations; (4) demonstrate receptive and expressive fingerspelling clarity and accuracy as indicated by skills test. Prerequisite: HSA 3515 or instructor consent. (2-6-0) 5

HSA 3517 Reverse Interpreting I: Upon completion of this course the student should demonstrate: (1) a receptive ability to communicate the appropriate content and intent of deaf signers into correctly spoken English at a level of 60-74%; (2) a receptive ability to communicate the appropriate mood, sign inflection, and emotional intent of deaf signers into vocally expressive English at a level of 60-74%; (3) through role play and written tests, a practical awareness of the R.I.D. Code of Ethics as it pertains to reverse interpreting; (4) awareness of the principles of lip reading and how those principles aid in reverse interpreting, as indicated by skills tests; (5) a receptive ability to communicate fingerspelled words into spoken English at a level of 64-74%; (6) awareness of the appropriate situation to reverse interpret or reverse translate into good spoken English as indicated by skills tests. Prerequisite: HSA 3515 or instructor consent. (2-6-0) 5

HSA 3525 Advanced Materials And Activities For The Young Child: Upon completion of this course, the student should be able to: (1) expand on the basic filebox of activities begun in HSA 3311, which will include at least: a) 20 art activities, b) 20 songs and 20 other musical activities, c) titles and summaries of 20 appropriate books for young children, d) 20 finger plays and 20 other language-related activities, e) 20 appropriate science activities, f) 20 appropriate math activities, g) 10 outdoor experiences that will expand the young child's learning, h) 10 suggestions for stimulating play in the block corner, i) 10 suggestions for teacher-made manipulative materials; (2) demonstrate the understanding of activities appropriate for different developmental levels (through the activities selected for the file box); (3) plan, organize, and carry out a teaching unit which will include all of the stated areas; (4) demonstrate the knowledge of the teacher's role in fostering and guiding children's creative ability; (5) demonstrate the capacity to foster and guide young children's creative ability. Prerequisite: HSA 3311 or permission of Program Director (5-0-0) 5

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HSA 3534 Advanced Day Care Administration: Upon completion of this course the student should be able to: (1) apply time management skills in performing administrative tasks in the operation of a day care center; (2) identify and demonstrate appropriate communication techniques, i.e., "I" messages, "affective listening," in the performance of administrative tasks in day care centers; (3) identify and describe special skills for building staff morale in day care, i.e., positive interpersonal relations, group process; (4) assess and revise documents used in day care operations, i.e., personnel policies, parent handbook, job descriptions, budgets; (5) describe and discuss the legal aspects of day care operations; (6) identify short and long range personal professional goals in the area of day care operations. Prerequisite: HSA 3503 or instructor consent. (3-0-6) 5

HSA 3600 Community Organization And Casework Preparation: Upon completion of this course the student should be able to: (1) identify and define a Human Service paraprofessional; (2) identify and describe roles and correlated activities that an HSA worker might play in social change in a local neighborhood or community; (3) identify and describe the philosophies, measures, and procedures used in vocational and social rehabilitation of the physically and mentally disabled; (4) identify and describe the scientific method of problem solving; (5) identify the members of the professional teams used in human services agencies and describe their backgrounds and functions; (6) identify the major organizational structure of human resources at federal, state and local levels, to include functions and practices; (7) identify and describe strengths and weaknesses of current delivery systems; (8) observe behavior and record significant observations in simple descriptive form. Prerequisite: HSA 3340 & HSA 3341. (3-0-9) 6

HSA 3604 Helping Relationship — Technique: Upon completion of this course the student should be able to: (1) discuss the Model of Facilitation, identifying the levels of a helping relationship and their characteristics as found in the Model; (2) identify non-verbal communication behaviors of time, body, and vocal media and discuss their effect in the helping relationship; (3) identify closed and open questions and discuss their use in the helping relationship; (4) identify and distinguish appropriate and inappropriate responses and leads; (5) demonstrate effective use of appropriate responses and leads. Prerequisite: HSA 3600 or permission of Program Director. (3-0-9) 6

HSA 4103 Stress Management: Upon completion of this course the student should be able to: (1) define stress as it occurs in both personal and professional situations; (2) identify methods for assessing stress and for managing stressful situations; (3) evaluate individual stress and coping patterns. (1-0-0) 1

HSA 4300 Hearing And Deafness: Upon successful completion of this course the student should be able to: (1) relate the nature and perception of sound to the sense of hearing; (2) identify the major parts of the ear and the function of each part; (3) classify hearing losses according to auditory dysfunctioning; (4) describe some common causes of deafness; (5) identify various medical/surgical treatments of hearing losses; (6) identify the roles of the various professionals and paraprofessionals involved in the diagnosis and treatment of hearing losses. (3-0-0) 3

HSA 4301 Helping Relationship — Theory: Upon completion of this course the student should be able to: (1) identify documents in a case file and basic forms used in various agencies; (2) correctly write an objective observation of a specific client; (3) identify facilitative methods of questioning in a helping situation; (4) identify various non-verbal cues in communication; (5) use the basic principles of reinforcement, modeling and extinguishing; (6) identify the basic principles of various techniques used in helping. (3-0-0) 3

HSA 4303 Orientation To Blindness: Upon completion of this course the student should be able to: (1) trace the changing attitude toward blindness from 300 A.D. to the Twentieth Century and the reading and writing techniques during this period; (2) identify major parts of the eye; (3) describe common causes of blindness; (4) define blindness; (5) identify various agencies involved in working with the blind; (6) demonstrate knowledge of braille and daily living skills for the blind. (3-0-0) 3

HSA 4304 Orientation To Deafness: Upon completion of this course the student should be able to: (1) trace the changing attitudes toward and treatment of the deaf in Europe and America from 300 B.C. — Twentieth Century; (2) compare and contrast the mental development, emotional adjustment, and social maturity of hearing-impaired and hearing individuals; (3) demonstrate and evaluate various communication methods used in the education of the deaf. (3-0-0) 3

HSA 4310 Adult/Child Relations: Upon successful completion of this course the student should be able to: (1) identify principles underlying the development of a positive self-concept in young children; (2) identify and demonstrate effective listening skills, i.e., active listening, essential to positive one-to-one interaction and positive small group interaction with young children; (3) identify and demonstrate effective listening and communication skills essential to positive (job related) interaction with parents and staff in a variety of situations. (3-0-0) 3

HSA 4390 Individual Study: This offering is being made to provide students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval by the sponsor and Division Head is required. (3-0-0) 3

HSA 4500 Working With Parents: Upon completion of this course the student should be able to: (1) discuss the importance of the caregiver establishing and maintaining a positive relationship with parents; (2) demonstrate positive relationships with parents by daily contact and occasional conferences to facilitate the free flow of information about the children's lives inside and outside the center; (3) demonstrate techniques of interaction with parents (i.e., parent conferences, parent group meetings, newsletter) which will facilitate increased understanding of children; (4) identify and discuss values that could exist among families participating in a child care center; (5) plan and work with a family to develop consistent responses to the child's behavior and common goals in education; (6) identify the strengths and talents of parents as they may contribute to the development of their own children, and demonstrate, by invitations to parents, every possible opportunity to participate and enrich the group program, i.e., classroom visits, trips into the community; (7) discuss ways to promote positive parental self-concept. (3-0-6) 5

HSA 4510 Health And Safety Of The Young Child: Upon successful completion of this course the student should be able to: (1) identify at least four general physical characteristics and needs of the young child at different periods of maturation — infancy, toddlerhood, early childhood years; (2) identify at least four specific influences of nutrition on the young child's total development; (3) identify principles of nutrition and demonstrate the ability to apply these principles in school and home, by the student's completed plans for one week of nutritionally-sound menus for meals and snacks appropriate for young children; (4) describe and be familiar with basic health care and practices for the young child and the family (e.g., periodic physical check ups, immunization routines, dental care, healthful routines of daily life); (5) identify and describe at least five common illnesses and diseases of the young child; (6) identify and describe at least four specific first aid skills of possible use in school situations; (7) identify and describe the control of at least five factors contributing to a safe and healthful environment for young children. (4-0-3) 5

HSA 4511 Introduction To Social Welfare: Upon completion of this course the student should be able to: (1) define social welfare and its relationship to social work in the United States; (2) discuss the social, historical, and political development of the American Social Welfare System and its institutions; (3) identify and discuss recent trends in social welfare, including the identification of current legislation (laws, bills) affecting the system; (4) discuss the basic characteristics of American society which contribute to the breakdown of individual and family self-care; (5) discuss the condition and extent of poverty in the United States today and current programs, both in operation and proposed, aimed at the alleviation of poverty and related social conditions. (5-0-0) 5

HSA 4524 Helping Interview I: Upon completion of this course the student should be able to: (1) demonstrate self-awareness and identify the concepts of worker-client interaction through value clarification of the agency/program, clientele, and the helping process; (2) identify and demonstrate good attending skills and the use of appropriate questions to elicit information; (3) identify and demonstrate the stages of a helping interview; (4) identify and demonstrate skills of listening, feedback, and feeling discrimination toward the client; (5) identify methods of client referral to other services and/or agencies. (2-0-9) 5

HSA 4525 Helping Interview II: Upon completion of this course, the student should be able to: (1) demonstrate a refinement of basic interviewing techniques to include conflict resolution; (2) identify and demonstrate skills of assertiveness and appropriate confrontation; (3) identify methods of appropriate time management to include setting priorities and implementation of techniques. Prerequisite: HSA 4524. (2-0-9) 5

HSA 4608 Seminar: Upon completion of this course the student should be able to: (1) discuss thoroughly the work experience in the student's specialty area; (2) discuss the procedures, treatment methods and service techniques of the agency where the student interns; (3) complete an indepth research project as a major contribution to the student's Human Service curriculum selected in consultation with the instructor; (4) maintain fifteen hours of internship per week, documented in a weekly log reflecting the student's experiences in the internship. Prerequisite: By permission of Program Director only. (1-0-15) 6

HSA 4614 Practical Problems Of Child Care II: Upon completion of this course the student should be able to: (1) identify and describe the principles underlying a pre-school program which supports the developmental needs of the whole child; (2) describe and implement effective techniques in observing and assessing the developmental needs of young children, i.e., anecdotal records, Koontz Child Developmental Program; (3) describe and implement effective techniques in evaluating pre-school environments in relation to the developmental needs of young children, i.e., classroom assessment tool, teacher assessment tool; (4) plan segments of a daily program for a group of young children; (5) implement segments of a planned daily program for a group of young children. Prerequisite: HSA 5500. (2-0-12) 6

HSA 5200 Human Relations: Upon completion of this course students should be able to: (1) demonstrate self awareness and personal growth by listing five or more new things that they have learned about themselves and five or more ways in which they have changed; (2) identify at least five of the things in life they value; (3) demonstrate skills for effective communication with others, such as listening, empathy; (4) list ten defense mechanisms and discuss the ones each student uses; (5) list five or more goals and decisions they have made during the course; (6) discuss at least five ways to put into practice on a future job some of the human relations skills learned during the course. (2-0) 2

HSA 5302 Interpersonal And Helping Skills In The Professional Community: Upon completion of this course, the student should be able to: (1) identify and discuss the role of the helping person within the professional community; (2) describe the relationships of individuals in the professional community and the expectations of self, of the work situation, and of the public; (3) identify and discuss interpersonal and helping skills as related to: values, defense mechanisms, stress management, agency and public conflict, and professional competencies; (4) identify appropriate methods and demonstrate appropriate skills of communicating with others, with emphasis on relating to staff and clientele in the professional community. Skills include: non-verbal communication, interviewing, problem-identification, problem-solving, assertiveness, decision-making, goal-setting, and telephone communication. (3-0-0) 3

HSA 5500 Practical Problems Of Child Care I: Upon completion of this course the student should be able to: (1) demonstrate effective techniques for working with children, i.e., showing respect for children as individuals with unique growth patterns and the ability to approach each child as a person of worth; (2) identify the various roles of the teacher as a facilitator of learning, as a model for children, and as a guide of children, using both direct and indirect techniques; (3) demonstrate effective techniques to use when developing satisfactory patterns of interacting with parents and staff; (4) describe the curriculum for young children and identify the experiences, media, and facilities which promote optimal development and self-discipline (self-knowledge). Prerequisite or Co-requisite: HSA 5501 (3-0-6) 5

HSA 5501 Child Development: Upon completion of this course the student should be able to: (1) identify the stages of the young child's development; (2) identify and discuss the inter-relationship between the social, cognitive, emotional and physical development of the child; (3) identify and describe factors which prevent and encourage maximum growth and development of the child; (4) identify and describe the characteristics of the child at different stages in the areas of social, cognitive, emotional, language, moral and physical development; (5) discuss the importance of play to the child's total development. (3-0-6) 5

HSA 5510 CDA Practical Lab I — Setting Up And Maintaining A Healthy Learning Environment: Upon completion of the practical lab experience the student should be able to: (1) organize space into functional areas recognizable by the children, e.g., block building, library, dramatic play, etc.; (2) maintain a planned arrangement for furniture, equipment and materials, and for large and small motor skills learning, and for play materials that are understandable to the children; (3) organize the classroom so that it is possible for the children to be appropriately responsible for care of belongings and materials; (4) arrange the setting to allow for active movement as well as quiet engagement; (5) take preventive measures against hazards to physical safety; (6) keep light, air and heat conditions at best possible levels; (7) establish a planned sequence of active and quiet periods, of balanced indoor and outdoor activities; (8) provide for flexibility of planned arrangement of space and schedule to adjust to special circumstances and needs of a particular group of children or make use of special education opportunities; (9) recognize unusual behavior or symptoms which may indicate a need for health care. (3-0-21) 5

HSA 5511 CDA Practical LAB II — Advancing Physical and Intellectual Competence: Upon completion of this course the student should be able to: (1) use the kind of materials, activities and experience that encourage exploring, experimenting, questioning, that help children fulfill curiosity, gain mastery, and progress toward higher levels of achievement; (2) recognize and provide for the young child's basic impulses to explore the physical environment and master the problems that require skillful body coordination; (3) increase knowledge of things in their world by stimulating observation and providing for manipulative-constructive activities; (4) use a variety of techniques for advancing language comprehension and usage in an atmosphere that encourages free verbal communication among children and between children and adults; (5) assist the child to work gradually toward recognition of the symbols for designating words and numbers; (6) promote cognitive power by stimulating children to organize their experience (as it occurs incidentally or pre-planned for them) in terms of relationships and conceptual dimensions: classes of objects; similarities and differences; comparative size, amount, degree; orientation in time and space; growth and decay; origins; family kinship; causality; (7) provide varied opportunities for children's active participation, independent choices, experimentation and problem-solving within the context of structured, organized setting and program; (8) balance unstructured materials such as paint, clay, blocks with structured materials that require specific procedures and skills; balance the use of techniques that invite exploration and independent discovery with techniques that demonstrate and instruct; (9) stimulate focused activities: observing, attending, initiating, carrying through, raising questions, searching answers and solutions for the real problems that are encountered and

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reviewing the outcomes of experience; (10) support expressive activities by providing a variety of creative art media and allowing children freedom to symbolize in their own terms without imposition of standards of realistic representation; (11) utilize support and develop the play impulse, in its various symbolic and dramatic forms, as an essential component of the program; giving time, space, necessary materials and guidance in accord with its importance for deepening and clarifying thought and feeling in early childhood. (3-0-21) 5

HSA 5512 CDA Practical Lab III — Building Positive Self Concept And Individual Strength: Upon completion of the practical lab experience the student should be able to: (1) provide an environment of acceptance in which the child can grow toward a sense of positive identity as a boy/girl, as a member of his family and ethnic group, as a competent individual with a place in the child community; (2) give direct, realistic affirmation to the child's advancing skills, growing initiative and responsibility, increasing capacity for adaptation, and emerging interest in cooperation, in terms of the child's actual behavior; (3) demonstrate acceptance to the child by including the home language functionally in the group setting and helping to use it as a bridge to another language for the sake of extended communication; (4) recognize individual differences in children's style and pace of learning and in the social-emotional aspects of their life situation and adjust the teacher-child relationship to the individual needs by using a variety of teaching methods and by maintaining flexible progressive expectations; (5) recognize when behavior reflects emotional conflicts around trust, possession, separation, rivalry, etc., and adapt the program of experiences, teacher-child and child-child relationships, so as both to give support and to enlarge the capacity face these problems realistically; (6) assess special needs of individual children and call in specialized help where necessary; (7) keep a balance for the individual child between tasks and experiences from which feelings of mastery and success can be enjoyed, and those other tasks and experiences which are a suitable and stimulating challenge, yet not likely to lead to discouraging failure; (8) assess levels of accomplishment for the individual child against the background of norms of attainment for a developmental stage, taking into careful consideration individual strengths and weaknesses and considering opportunities the child has or has not had for learning and development. (3-0-21) 5

HSA 5513 CDA Practical Lab IV — Organizing And Sustaining The Positive Functioning Of Children And Adults In A Group In A Learning Environment: Upon completion of the practical lab experience the student should be able to: (1) plan the program of activities for the children to include opportunities for playing and working together and sharing experiences and responsibilities with adults in a spirit of enjoyment as well as for the sake of social development; (2) create an atmosphere through example and attitude where it is natural and acceptable to express feelings, both positive and negative — love, sympathy, enthusiasm, pain, frustration, loneliness or anger; (3) establish a reasonable system of limits, rules and regulations to be understood, honored and protected by both children and adults, appropriate to the stage of development; (4) foster acceptance and appreciation of cultural variety by children and adults as an enrichment of personal experience; development projects that utilize cultural variation in the family population as resource for the educational program. (3-0-21) 5

HSA 5514 CDA Practical Lab V — Bringing About Optimal Coordination Of Home And Other Child-Rearing Practices And Expectations: Upon completion of the practical lab experience the student should be able to: (1) incorporate important elements of the cultural backgrounds of the families being served: food, language, music, holidays, etc., into the children's program in order to offer them continuity between home and center settings at this early stage of development; (2) establish relationships with parents that facilitate the free flow of information about their children's lives inside and outside the center; (3) communicate and interact with parents toward the goal of understanding and considering the priorities of their values for their children; (4) recognize each child as a member of a particular family and work with that family to resolve disagreements between the family's life

style with children and the center's handling of child behavior and images of good education; (5) recognize and utilize the strengths and talents of parents as they may contribute to the development of their own children and give parents every possible opportunity to participate and enrich the group program. (3-0-21) 5

HSA 5515 CDA Practical Lab VI — Carrying Out Supplementary Responsibilities Related To The Children's Programs: Upon completion of the practical lab experience the student should be able to: (1) make observations of the growth and development of individual children and changes in behavior, formally or informally, verbally or in writing, and share this information with other staff involved in the program; (2) engage with other staff in cooperative planning activities such as schedule or program changes indicated as necessary to meet particular needs of a given group of children or incorporation of new knowledge or techniques as these become available in the general field of early childhood education; (3) demonstrate an awareness of management functions such as ordering of supplies and equipment, scheduling services, safeguarding health and safety, and transmitting needs for efficient functioning to be the responsible staff member or consultant. (3-0-21) 5

Humanities*

*See, also, LITERATURE

HUM 1300 The Ascent Of Man: A course based on the Bronowski film series and taught by a team of instructors representing several disciplines. Upon successful completion of the course the student should be able to identify important scientific thinkers and their discoveries, should be familiar with the influence of scientific discoveries on humanistic thinking, and should have an understanding of science as an important factor in human social and cultural evolution. (3-0) 3

HUM 1304 Current Dramatic Events: A study of six plays, including dramas being performed in the Charlotte area. Upon successful completion of the course the student should have an understanding of drama as a performing art; should be able to recognize the elements of drama and to distinguish between tragedy, comedy, farce, and melodrama; should be able to recognize classicism, romanticism, realism, expressionism, surrealism, and absurdism in drama; and should have developed criteria for evaluating a dramatic performance. (3-0) 3

HUM 1314 The Novel: A study of five works selected from American, British, French, Russian, and Spanish literature. Upon successful completion of the course the student should have an understanding of the novel as a literary genre and a knowledge of the cultural tradition out of which each work emerged, should be able to differentiate between the literary methods and techniques of the respective writers, and should have discovered the novel as a representation of life. (3-0) 3

HUM 1319 Mythology: A study of myths and legends, chiefly Greek, Roman, and Norse. Upon successful completion of this course the student will be familiar with the myths and be able to assess the influence of myths on art, custom, and tradition and to recognize the impact of myths on contemporary thought. (3-0) 3

HUM 1324 Science Fiction: A study of science fiction in historical perspective. Upon successful completion of the course the student should be able to differentiate between science fiction and other literary genres, should be able to trace the themes and development of science fiction, and should be able to recognize the influence of science fiction on contemporary culture. (3-0) 3

HUM 1329 Russian Literature And Culture: Upon completion of the course the student will be able to demonstrate a general knowledge of Russian culture as revealed in selected readings, lectures, and audio-visual presentations. The student will be able to demonstrate an awareness of geographical, historical, and political factors affecting life and the arts in the Soviet Union. (3-0) 3

HUM 1330 Women's Images In Fiction: A course designed to develop an awareness and understanding of women's changing roles in society as portrayed in fiction. Upon completion the student will demonstrate a knowledge of the development of women's social roles during the nineteenth and twentieth centuries through novelists' and short story writers' portraits of women. (3-0) 3

HUM 1500 Humanities—Classical To Medieval: A study of Western culture as revealed in art, literature, music, and philosophy. Upon successful completion of the course the student should have a familiarity with Western culture as revealed through art, music, literature, and philosophy from classical to medieval times; should have discovered the ways in which the humanities have helped to shape, reflect, and interpret Western culture; and should be able to recognize dominant styles and identify major works of art, literature, and music of the period. (5-0) 5

HUM 1501 Humanities—Renaissance To Present: A study of Western culture as revealed in art, literature, music, and philosophy. Upon successful completion of the course the student should have a familiarity with Western culture as revealed through art, music, literature, and philosophy from the Renaissance to the present; should have discovered the ways in which the humanities have helped to shape, reflect, and interpret Western culture; and should be able to recognize dominant styles and identify major works of art, literature, and music of the period. (5-0) 5

HUM 2320 Special Topics: An advanced course in which the students and the instructor select a topic for in-depth study. Prerequisite: Approval of the supervising instructor and Department Head. (3-0) 3

Insurance

INS 3340 Principles Of Risk And Insurance: Upon successful completion of this course the student should be able to describe the basic concepts of risk including its relationship to probability theory and the law of large numbers, discuss the relationship between risk and insurance, list and discuss the principles of risk management and the role of the risk manager, describe the nature and function of various types of insurance institutions, and discuss the principles of insurance contracts. (3-0) 3

INS 3341 Property And Casualty Insurance: Upon successful completion of this course the student should be able to describe the legal basis of insurance and be able to discuss the significance of insurable interest, indemnity, material fact and concealment; list the principles and conditions for the following types of insurance: marine insurance, standard fire insurance, inland marine insurance, and worker's compensation and employer's liability insurance; discuss the purpose and intent of comprehensive general liability insurance, automobile insurance and automobile financial laws; describe crime insurance and suretyship; and list and discuss the various multiple line coverages and commercial property forms. (3-0) 3

INS 3342 Life And Health Insurance: Upon successful completion of this course the student should be able to describe the principles of life and health insurance, the types and uses of annuities and the uses of life insurance and methods of settlement, differentiate between gross and net premiums, discuss the concept of cash surrender value, analyze and interpret insurance company financial statements, and list the types and categories of health insurance. (3-0) 3

INS 4294 General Insurance — Part I — Introduction: This is the first course in a series which when successfully completed will waive the licensing exam given by the Department of Insurance for Insurance agents. Upon successful completion of this part the student should be able to identify the types of risk and how to apply the risk management concepts to said risks, discuss the various types of insurance and the functions of insurance companies, and interpret the various laws and regulations affecting the insurance industry. (2-0) 2

INS 4295 General Insurance — Part II — Life, Accident And Health: A continuation of INS 4294. When successfully completed with INS 4294 this course will waive the licensing exam required to be licensed as a Life, Accident and Health Insurance agent. Upon successful completion of this course the student should be able to discuss the exposures, types, policy provisions and practices of life, accident and health insurance; interpret the regulations and laws specifically applying to life, health and accident agents; and describe the various social insurance plans. Prerequisite: INS 4294. (2-0) 2

INS 4296 General Insurance — Part III — Fire And Casualty: A continuation of INS 4294. When successfully completed with INS 4294 this course will waive the licensing exam required to be licensed as a Fire and Casualty Insurance Agent. Upon successful completion of this course the student will be able to discuss and explain the various lines for fire and casualty insurance such as: automobile, marine, inland marine, general liability, worker's compensation, commercial fire, home owner's, crime and umbrellas. Further, the student will be able to explain the functions of government sponsored insurance such as FAIR Plans and BEACH Plans; interpret the regulations and laws specifically applying to fire and casualty agents; and discuss the forms for the various types of insurance. Prerequisite: INS 4294. (2-0) 2

Manufacturing Engineering Technology

ISC 4304 Production Planning: Upon completion of this course the student should be able to: (1) discuss production control functions, types of productions, and control types and procedures; (2) forecast and estimate future manpower, material, and machinery needs; (3) institute inventory procedures; (4) prepare schedules utilizing production control boards; and (5) dispatch and keep production moving. Prerequisite: MAT 3507, MEC 3406 or departmental permission. (2-3) 3

ISC 4314 Inspection And Quality Control: Upon completion of this course the student should be able to: (1) use nonprecision measuring instruments; (2) use precision measuring instruments; (3) use comparison measuring instruments; (4) use gauges, gauge blocks, surfaces plates, and precision angular measuring instruments; (5) destructive and non-destructive testing methods to find the physical and mechanical properties of engineering materials; and (5) use statistical methods of quality control. Prerequisite: MAT 3507, MEC 3406 or departmental permission. (2-3) 3

ISC 4400 Time And Motion Study: Upon completion of this course the student should be able to: (1) apply the general problem-solving process to work methods design; (2) construct activity charts, human and machine charts; (3) apply the principles of motion economy as related to use of the human body, the workplace, and the design of tools and equipment; (4) conduct a time study, determine the rating factor and allowances, and develop a time standard; (5) use the MTM method to determine time standards; and (6) conduct work sampling. (2-6) 4

ISC 4404 Plant Layout And Materials Handling: Upon completion of this course the student should be able to: (1) explain the 3 types of classic layouts; (2) design a plant layout based on the following: (a) size, physical and chemical characteristics, quantity and variety of parts, products and materials; (b) the nature, size, and quantity of machines and equipment; (c) the worker, waiting, and service factor, (d) office and employee facilities; (3) select the proper fixed and nonfixed floor and overhead materials handling equipment to move materials and products efficiently and economically. Prerequisite: DFT 3404 or departmental permission. (2-6) 4

ISC 4405 Process Planning: Upon completion of this course the student should be able to: (1) perform a dimensional and tolerance analysis of a product print, using tolerance charts; (2) select and plan the process of manufacture and its sequence; and (3) select the machine tool, standard and special equipment, and tooling for the most economical manufacturing process. Prerequisite: DFT 3405, MEC 3406 or departmental permission. (2-6) 4

Journalism

JOU 1300 News Writing: Upon successful completion of this course the student should know the ethics of journalism and basic press law with respect to libel and privacy; the student should be able to use the information gathering process to write and edit news stories for print media and analyze the publisher-editor-writer-audience relationship. (2-3) 3

Paralegal

LEX 3300 Case Analysis And Reasoning: The first course in a series of courses that studies the fundamentals of legal research, analysis and writing. Upon successful completion of this course the student should be able to read and interpret court decisions, statutes and constitutions, write and use a composite brief, synthesize opinions, and analogize opinions and fact situations. (3-0) 3

LEX 3310 North Carolina Legal Systems: This course examines the roles of state and federal judiciary in North Carolina through use of the United States and North Carolina Constitutions and the various applicable statutes. Upon successful completion of this course, the student should be able to describe and analyze the role of each court sitting in North Carolina. (2-2) 3

LEX 3320 Evidence: This course is an examination of the principal rules of evidence applicable in civil trials by jury at common law, their history, development, and modern application, together with statutes affecting the field. Upon successful completion of this course the student will be able to: distinguish between direct and cross examination; explain the methods and limits of impeachment; utilize real and demonstrative evidence; prepare exhibits for introduction; identify proper introduction of opinion evidence; discuss the best evidence rule, presumptions, inferences and burden of proof; recognize hearsay and its exceptions; and explain the importance of saving the record for appeal. (3-0) 3

LEX 3404 Legal Research: A continuation of LEX 3300. Upon successful completion of this course, the student should be able to do basic legal research by using such legal publications: U.S.G.A., N.C.G.S., ORDINANCES, REPORTERS, DIGESTS, WORDS AND PHRASES, ENCYCLOPEDIAS, A.L.R., SHEPARDS, LOOSELEAF SERVICES, and C.F.R., Prerequisite: LEX 3300, and admission to Program. (2-4) 4

LEX 3405 Legal Writing: This course is a continuation of LEX 3404 and is designed to train students to express their research and analysis of legal problems clearly and effectively. Upon successful completion of this course, the student should be able to apply the principles of expository prose and the rhetoric of persuasion to the kind of writing required in writing legal memos and two trial briefs. Each student shall write successfully a closed legal memo and an open legal memo. Prerequisite: LEX 3404. (3-2) 4

LEX 4190 Cooperative Work Experience: Upon completion of this course the student should be able to: (1) identify the relationship between theoretical legal constructs and work skills required within the legal environment; (2) successfully integrate theories with practice; (3) enhance present work skills by awareness of the integration of contemporary theories, practices and court cases with current practices; (4) develop new skills through a carefully planned and coordinated cooperative effort of supervision between and institutional representative and each participant's respective employer. (0-10) 1

LEX 4290 Description: Same as LEX 4190 (0-20) 2

LEX 4390 Description: Same as LEX 4190 (0-30) 3

LEX 4490 Description: Same as LEX 4190 (0-40) 4

LEX 4491 Description: Same as LEX 4190 (0-40) 4

NOTE: Maximum credit hours allowed for cooperative work experience is 10 hours.

LEX 4220 Legal Ethics: This course analyzes the ethics of lawyer and staff. Upon completion of this course the successful student should be able to explain the N.C. Unauthorized Practice of Law Statutes and how they apply to paralegals; contrast and compare the ABA Code of Professional Responsibility, the N.C. Canon of Ethics, and codes of ethics of the National Federation of Paralegal Associations and the National Association of Legal Assistants; identify authority that can and cannot be delegated by the attorney; and, discuss what is proper supervision. Prerequisite: 80 hours in the Program. (2-0) 2

LEX 4290 Cooperative Work Experience: Upon completion of this course the student should be able to: (1) identify the relationship between theoretical legal constructs and work skills required within the legal environment; (2) successfully integrate theories with practice; (3) enhance present work skills by awareness of the integration of contemporary theories, practices and court cases with current practices; (4) develop new skills through a carefully planned and coordinated cooperative effort of supervision between an institutional representative and each participant's respective employer. (Maximum credit hours allowed for cooperative work experience is 10 hours.) (0-20) 2

LEX 4300 Domestic Relations Law: A course which examines the various laws of North Carolina that affect the marriage and family relationships such as statutory grounds for divorce, defenses to divorce actions, elements of separations by court order or by mutual consent, and custody of children. Upon successful completion of this course the student should be able to discuss the various applicable statutes, interview the client and potential witnesses, aid the attorney in the drafting of divorce, custody and support pleadings, separation agreements, consent judgments, court orders and documents for adoption. (3-0) 3

LEX 4321 Tort Law: A study of the fundamental principles of the law of Torts. Upon successful completion of this course the student should be able to recognize the more common intentional torts as negligence from various fact situations, explain the prima facie case for each, and evaluate the defenses available to each. (3-0) 3

LEX 4322 Corporate Law: A study of the laws of North Carolina concerning partnerships and coporations. Upon successful completion of this course the student should be able to explain the basic concepts of corporations as compared to partnerships, joint ventures and sole proprietorships. Further, the student should be able to aid the attorney in the interviewing clients, drafting articles of incorporation, by-laws, minutes, resolutions, stock certificates, partnership agreements, joint venture agreements, and the proper filing of corporate and partnership documents. (3-0) 3

LEX 4331 Law Office Management: A study of effective organization and management skills in both small and large law offices. Upon successful completion of this course the student should be able to write an office manual as well as procedures manuals. The student will also be able to explain the need for and methods of filing and indexing legal matters, the methods of opening new matter files, various accounting systems, time keeping systems and professional liability insurance. Further, the student should be able to examine other management problems existing in a law office. (3-0) 3

LEX 4332 Trial Preparation And Procedures: An indepth study of legal drafting and the rules of Civil Procedure. The student who successfully completes this course should be able to aid the attorney in the drafting of the various pleadings, motions, orders, interrogatories and affidavits that are the ordinary components of civil actions. Further, the student should be able to aid in the preparation of the file and exhibits for the trial. Prerequisite: LEX 3404. (3-0) 3

LEX 4341 Worker's Compensations Law: A study of the various North Carolina laws concerning worker's compensation claims. Upon successful completion of this course the student should be able to aid the attorney in interviewing and investigation of such claims, collecting and reviewing medical data, settlement negotiations and in preparing such claims for hearings. (3-0) 3

LEX 4351 Laws of Taxation: A study of the various tax laws concerning legal matters most often seen in a law office. Upon successful completion of this course the student should be able to aid the attorney in the gathering of necessary data and completion of such tax forms as are necessary for estates and trusts, incorporation of new businesses and selection of Sub-Chapter S. (3-0) 3

LEX 4352 Preparing Estate Planners: This course is designed to train personnel in assisting others in estate planning. Upon successful completion of this course the student should be able to research and interpret the various estate and gift tax laws, list the benefits and negative aspects of the different methods of funding estates, select assets in terms of good and bad risks for estate ownership, and discuss the fiduciary requirements of one assisting another in estate planning. (3-0) 3

LEX 4361 Interpreting Medical Reports: This is a self-paced course designed to acquaint the student with the terminology, diagnosis and treatment of physical injuries most often seen in medical reports on personal injury cases. Upon successful completion of this course the student should be able to review and analyze the various medical reports sent to a law office on personal injury cases. (3-0) 3

LEX 4410 Collections And Bankruptcy: A study of the laws and procedures of handling collections for clients and bankruptcy of clients. The course will study the bankruptcy laws in effect as of October 1, 1979. Upon successful completion of this course the student should be able to develop and set up a collection system within a law office by aiding the attorney in drafting necessary form letters, complaints, liens and notices of sale. Further, the student should be able to interview the client, investigate the situation and complete the bankruptcy package of documents. (3-2) 4

LEX 4420 Real Property Law And Title Abstracting: A course which examines the laws of real property with emphasis on common types of real estate transactions and conveyances as well as the steps necessary to abstract a title. Upon successful completion of this course the student should be able to identify the various estates in real property; abstract a title; aid the attorney in the drafting of deeds, deeds of trusts, mortgages and other documents necessary to real property transactions and closing statements; and aid the attorney in completion of loan packages. Preparation of an abstract of title is a requirement of the course. (3-2) 4

LEX 4430 Wills, Trusts And Probate: A study of the laws and procedures concerning distribution of property by trusts, wills and intestacy. Upon successful completion of this course the student should be able to interview clients, use a wills manual, and aid the attorney in drafting wills and trusts, as well as completion of the documents necessary to administer an estate. Prerequisite: LEX 3404. (3-2) 4

LEX 4431 Interview And Investigation: A training course in various techniques of interviewing both clients and witnesses. Upon successful completion of this course the student should be able to obtain medical records, official records and documents for preparation of client matters; research and design interview sheets and checklists for various legal matters and design in-house files for various legal matters. Students will develop interview sheets and will role play various interview situations as part of this class. Prerequisite: LEX 3404. (3-2) 4

LEX 4434 Legal Drafting: This course is a continuation of LEX 3404 and LEX 3405. Upon successful completion of this course the student should be able to use form books, form files, rules of procedure, research and imagination to draft most letters and documents necessary in a private law office with the exception of those documents unique to an area of law taught in a separate course. Prerequisite: LEX 3405. (3-2) 4

Literature*

***Fills Humanities Requirement.**
See, also, HUMANITIES

LIT 2314 Contemporary Literature: A study, through the short story and novel, of such twentieth-century writers as Bellow, Malamud, Roth, Singer, O'Connor, Welty, Baldwin, Updike, Cheever, Oates, Sartre, and Kafka. Upon successful completion of the course the student should be familiar with selected writers who have influenced and distinguished contemporary fiction; should have a knowledge of some philosophical, ethnic, regional, and stylistic trends reflected in the literature; and should have a greater competence in analyzing literature from a social, structural, psychological, archetypal, and philosophical perspective. Prerequisite: COM 1306 or departmental consent. (3-0) 3

LIT 2320 Special Topics: An advanced course in which the students and the instructor select a topic for in-depth study. Prerequisite: Approval of the supervising instructor and the Department Head. (3-0) 3

LIT 2324 The Bible As Literature: A study of selected portions of the Bible. Upon successful completion of the course the student should have an understanding of the Bible as literature, containing saga, chronicle, lyric poetry, oratory, short story, and biography; should be able to identify Judeo-Christian ideas as they are reflected in the material studied; and should have a knowledge of changes in concepts and values during the span of Biblical history. Prerequisite: COM 1306 or Departmental consent. (3-0) 3

LIT 2504 British Literature, 1300-1800: A study of selected works of British writers before 1800, with emphasis on Chaucer, Shakespeare, and Milton. Upon successful completion of the course the student should be familiar with selected works of the writers of the period, should have an awareness of the development of the English language and of literary trends during the period, and should be able to analyze the literature read in terms of form and content. Prerequisite: COM 1306 or Departmental consent. (5-0) 5

LIT 2505 British Literature, 1800-Present: A study of selected works of British writers since 1800, including Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, Tennyson, Eliot, Conrad, Shaw, Hardy, and Yeats. Upon successful completion of the course the student should be familiar with selected works of the writers studied; should be able to characterize romantic, Victorian, and modern British literature; and should be able to analyze the literature read in terms of form and content. Prerequisite: COM 1306 or Departmental consent. (5-0) 5

LIT 2514 American Literature, 1800-1900: A study of selected works of American writers before 1900, with emphasis on Poe, Hawthorne, Melville, Emerson, Thoreau, Whitman, Dickinson, and Twain. Upon successful completion of the course the student should have a knowledge of the lives and representative works of the writers studied; should have a knowledge of how each writer reflects certain trends of society; should be able to identify literary devices and techniques used by the writers and to show greater competence in interpreting, analyzing, and evaluating literature, and in ferreting out meanings and ideas in literature. Prerequisite: COM 1306 or Departmental consent. (5-0) 5

LIT 2515 American Literature, 1900-Present: A study of selected works of major American writers, including Crane, James, Robinson, Frost, O'Neill, Anderson, Dreiser, Hemingway, Wolfe, and Faulkner, with emphasis on their interpretations of the modern era. Upon successful completion of the course, the student should have a knowledge of the lives and representative works of the writers studied; should have a knowledge of how each writer reflects certain trends of society; and should be able to identify literary devices and techniques used by the writers and to show greater competence in interpreting, analyzing, and evaluating literature, and in ferreting out meanings and ideas in literature. Prerequisite: COM 1306 or Departmental consent. (5-0) 5

Course Descriptions

LIT 2534 World Literature: A study of selected works by writers such as Boccaccio, Machiavelli, Rabelais, Cervantes, Rousseau, Goethe, Ibsen, and Tolstoy. Upon successful completion of the course, the student should have a familiarity with selected works by the authors studied and be able to identify major ideas and values reflected in the literature. Prerequisite: COM 1306 or Departmental consent. (5-0) 5

Learning Lab

LLB 9200 Classroom Success: Upon completion of this course the student should be able to: (1) explain the use of College publications, the procedures for registration and for obtaining the benefits of the resources available on the campus; (2) demonstrate techniques of effective study habits including skills in time management, listening and taking notes, studying textbooks and remembering the material, planning for and taking exams. (0-3) 2

Machinist

MAC 5200 Precision Instrument Reading: Upon completion of this course the student should be able to: (1) solve problems related to the machinists' field involving fractions and decimals; (2) read basic 3-view projections; (3) properly care for, read, and use the following precision measuring instruments: steel rule, vernier caliper, vernier height gauge, micrometer, dial indicator, gauge blocks and fixed gauges. (2-0) 2

MAC 5201 Machine Shop Practices: Upon completion of this course the student should be able to: (1) identify and use the basic hand tools and measuring instruments associated with the metal working trades; (2) perform basic operations using a drill press, lathe, milling machine and grinding machine; (3) describe and use all appropriate safety procedures. (1-3) 2

MAC 5300 Introduction To Numerical Control Programming: Upon completion of this course the student should be able to: (1) demonstrate a basic knowledge of numerical control programming; (2) code and punch numerical control tape; (3) demonstrate an understanding of numerical control dimensioning and positioning for point to point operations; (4) write a sequential manuscript for two axis drilling; (5) write a work address manuscript for three axis random and sequential tool selectors. (3-0) 3

MAC 5301 Blueprint Reading For Machinists I: Upon completion of this course the student should be able to: (1) sketch multi-view drawings; (2) interpret conventional lines and dimensions; (3) interpret notes, thread notations, and welding symbols; (4) make pictorial sketches; (5) interpret basic drawings. (3-0) 3

MAC 5302 Blueprint Reading For Machinists II Upon completion of this course the student should be able to: (1) read and interpret industrial prints of a more complex nature; (2) understand and interpret geometric tolerance symbols and true position dimensioning; (3) sketch details and assemblies. Prerequisite: MAC 5301 (3-0) 3

MAC 5304 Computer Numerical Control Programming I: Upon completion of this course the student should be able to: (1) write programs for CNC machines to include angular interpolation, circular interpolation, single point threading, and other complex programming; (2) edit and correct programs; and (3) operate CNC equipment. Prerequisite: MAC 5300 or permission from the Machinist Program Director. (2-2) 3

MAC 5307 Machine Tool Application I: Upon completion of this course the student will have completed assigned projects using skills learned in prerequisite courses including the following: (1) planning work for correct machining and ease of operation; (2) using machine tools and hand tools in a proper and safe manner; (3) using proper work habits. Prerequisite: MAC 5311, MAC 5313, MAC 5422, MAC 5424. (0-9) 3

MAC 5308 Machine Tool Application II: (A continuation of MAC 5307.) Upon completion of this course the student will have: (1) reinforced and developed additional manipulative skills related to the machine tool trade by producing assigned projects; (2) specialized in one of the four major areas of machine tool operations. Prerequisite or Co-requisite: MAC 5307. (0-9) 3

MAC 5311 Basic Lathe Operations: Upon completion of this course the student should be able to: (1) select the proper speeds and feeds for assigned projects; (2) use proper work holding devices; (3) select proper lathe tools; (4) perform operations with prescribed accuracy for straight turning, knurling, threading (external), boring and tapering; (5) use safe and proper techniques in all procedures. Co-requisite: MAC 5200. (1-6) 3

MAC 5313 Layout, Hand Tool, And Drill Press Procedures: Upon completion of this course the student should be able to: (1) properly use hand tools normally used in machine shop work; (2) use layout tools with prescribed accuracy; (3) operate the drill press to drill, ream, countersink, counterbore, machine tap, layout and drill multiple holes. Co-requisite: MAC 5200. (1-6) 3

MAC 5315 General Machining And Maintenance: Upon completion of this course the student should be able to: (1) repair broken and/or worn machine parts; (2) perform maintenance procedures; (3) produce typical machine parts; and (4) complete industrial grade projects. Prerequisite: MAC 5311, MAC 5313, MAC 5422, MAC 5424. (1-6) 3

MAC 5401 Basic Calculations For Machinists: Upon completion of this course, the student should be able to: (1) apply the principles of addition, subtraction, multiplication and division to problems indigenous to the machinists' field; (2) find direct and indirect ratios and proportions involving lathe calculations; (3) accurately read a ruler and micrometer; (4) apply geometric formulas toward thread calculations; (5) manipulate fractional and decimal numbers; (6) perform area and volume calculations; (7) use angular and geometric measurement in problem-solving; (8) apply simple algebraic equations to work problems; (9) discuss measurement using the metric system as well as the English system. (4-0) 4

MAC 5422 Basic Milling Operations: Upon completion of this course the student should be able to: (1) demonstrate skill in cutter, speed and feed selections; (2) demonstrate proper and safe techniques with prescribed accuracy in face milling, shoulder milling, fly cutting and horizontal plain milling. Co-requisite: MAC 5200. (2-6) 4

MAC 5424 Grinding Machine Operations: Upon completion of this course the student should be able to: (1) demonstrate a thorough understanding of grinding machine theory and practice; (2) make proper abrasive selections; (3) select appropriate speeds; (4) demonstrate proper and safe techniques in operating with prescribed accuracy the horizontal surface grinder, cylindrical grinder and the tool and cutter grinder. Prerequisite: MAC 5311, MAC 5422. (2-6) 4

MAC 5426 Production Machine Techniques: Upon completion of this course the student should be able to: (1) plan methods of production for a given part; (2) write and/or use process sheets; (3) utilize innovative techniques for machine tool set-up; (4) remove metal to specifications using a turret lathe, contour band saw, horizontal milling machine; (5) demonstrate in writing an in-depth knowledge of production metal removal. Prerequisite: MAC 5311 and MAC 5422. (2-6) 4

Mathematics

MAT 1500 Mathematics For Modern Living: The student will recognize and use properties of logic and sets; classify and use numbers and sequences; find linear, area, and volume measurements; use the metric system; find simple and compound interest and use percentage; use hand calculators; use computer terminology; solve equations; use ratio and proportion; graph linear equations; define and calculate probabilities and statistical measurements. Students are required to attend scheduled orientation and testing sessions. (5-0) 5

MAT 1504 College Algebra I: The first of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. The student will apply set operations; state and apply the field properties; solve first degree equalities and systems of equations with two and three variables; add, subtract, multiply, and divide polynomials and rational expressions; factor; state and apply rules of exponents — both integral and fractional; define and recognize relations and functions and draw their graphs; graph quadratic functions — the parabola and circle; simplify radicals; state and apply the properties of ratio and proportion; variation; solve word problems. (Not applicable to mathematics, engineering, or science majors.) Credit not given to students already having credit for MAT 1514. Prerequisite: Placement examination or MAT 9510 or consent of the Department Head. (5-0) 5

MAT 1505 College Algebra II: The second of a two course sequence in college algebra designed to provide the mathematical background for college work in fields other than mathematics, engineering, or physical science. The student will solve second degree equations in one variable; solve radical equations; solve systems involving quadratic equations; solve systems of inequalities; define a complex number and perform the four fundamental operations on complex numbers; use matrices and determinants to solve systems of equations; find inverses of functions; find permutations and combinations, determine probabilities; use the binomial theorem to expand a binomial; solve word problems; use logarithms. (Not applicable to mathematics, engineering, or science majors.) Credit not given to students already having credit for MAT 1514. Prerequisite: MAT 1504 or consent of the Department Head. (5-0) 5

MAT 1514 Precalculus Mathematics I: The first of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. The student will state and use the basic properties of the real number system; add, subtract, multiply and divide algebraic expressions; factor; expand using the Binomial Theorem; solve first and second degree equations; define, graph, and apply relations and functions; use straight lines and linear functions; solve polynomial equations of higher degree, solve linear and non-linear inequalities. Prerequisite: Placement examination or MAT 1504 or consent of the Department Head. Co-requisite: MAT 9511 or high school geometry or consent of the Department Head. (5-0) 5

MAT 1515 Precalculus Mathematics II: The second of a two course sequence designed to prepare students for the four quarter calculus sequence or additional work in mathematics. The student will solve systems of equations using algebraic, graphic, and matrix methods; define, graph, and apply exponential and logarithmic functions; define and apply trigonometric and circular functions; state and apply the addition and multiple angle formulas; prove identities; solve trigonometric equations; graph using symmetry, intercepts, asymptotes and excluded regions; state and apply the properties of the conic sections. Prerequisite: MAT 1514 or consent of the Department Head. (5-0) 5

MAT 1516 Introductory Calculus: This is a brief treatment of the calculus for non-mathematics or non-engineering majors. The student will review functions and relations. The student will be able to find limits; determine if a function is continuous; find derivatives of algebraic expressions by the definition; find derivatives by using differentiation techniques; differentiate implicitly; find higher order derivatives; apply the derivative to find relative and absolute extrema; determine concavity and points of inflection; find differentials; evaluate definite and indefinite integrals; find areas by integration; differentiate and integrate exponential and logarithmic functions. Prerequisite: MAT 1505 or MAT 1514 or consent of the Department Head. (5-0) 5

MAT 1524 Analytic Geometry And Calculus I: The first of a four-quarter unified sequence of calculus. (The four-quarter sequence is recommended for students in engineering, mathematics, the physical sciences, and students who need more than an introduction to calculus.) The student will review inequalities, absolute value, and functions; study algebraic and trigonometric functions with regard to the concepts of limits, derivatives, continuity, implicit differentiation, the differential and Newton's method of root approximation; apply the derivative to find extrema, increasing and decreasing intervals, concavity and graphing; and solve related-rate problems. Prerequisite: MAT 1515 and plane geometry or consent of the Department Head. (5-0) 5

MAT 2504 Analytic Geometry And Calculus II: The second of a four-quarter sequence. The student will evaluate definite and indefinite integrals with regard to algebraic, exponential, trigonometric, logarithmic, hyperbolic, and inverse functions; state and apply the Fundamental Theorem of calculus; apply calculus techniques to finding area, work, power, energy, exponential growth and decay, volume, arc length, and surface area; solve integration problems by the techniques of substitution, parts, trigonometric substitution, partial fractions, and miscellaneous substitutions; use integral tables; use numerical integration, summation notation, and approximations to area. Prerequisite: MAT 1524 or consent of the Department Head. (5-0) 5

MAT 2505 Analytic Geometry And Calculus III: The third of a four-quarter sequence. The student will apply calculus techniques to finding center of mass, the first moment, centroid of a plane region, moments of inertia, kinetic energy, and fluid pressure; solve problems in analytic geometry, and the polar coordinate system (with regard to calculus ideas); find the limit of indeterminate forms (via L' Hopital); evaluate improper integrals; use Taylor's polynomial and approximations; sequences and series; vectors in the plane (with regard to calculus' techniques). Prerequisite: MAT 2504 or consent of Department Head. (5-0) 5

MAT 2506 Analytic Geometry And Calculus IV: The last of a four-quarter sequence. The student will perform operations on vectors in three dimensions; find derivatives and integrals of vector-valued functions in three dimensions; find velocity and acceleration; determine domain, continuity and the differentiability of functions of more than one variable; find partial derivatives, total derivatives, higher-order partial derivatives, directional derivatives, gradients; evaluate and apply partial derivatives and line integrals; evaluate and apply multiple integrals (including double integrals, iterated integrals, center of mass, double integrals in polar coordinates, surface area, and triple integrals); an introduction to vector analysis including Stokes and Green's theorem. Prerequisite: MAT 2505 or consent of the Department Head. (5-0) 5

MAT 2508 Introduction To Ordinary Differential Equations: A first course in the study of differential equations. Upon completion of this course the student will be able to solve ordinary differential equations by the standard methods of solution. This includes the methods of variable separable, first-order, exact, homogeneous, equations reducible to first-order, existence and uniqueness of solutions, homogeneous equations with constant and variable coefficients, Euler, linear homogeneous by Taylor's series, nonhomogeneous, and undetermined coefficients; variation of parameters; elimination and matrix method to homogeneous linear solutions; variation of parameter to non-homogeneous systems; the Laplace transform applied to differential equations and systems; series solution of second-order linear equations; boundary value problems including eigen values and eigen functions; numerical solutions including Euler Taylor, Runge-Kutta and systems of first-order. In addition, the student will demonstrate an understanding of the general theory of ordinary differential equations and the application of differential equations to present-day engineering problems. Prerequisite: MAT 2506 or consent of the Department Head. (5-0) 5

MAT 2514 Statistics I: The student will organize, analyze, and interpret statistical data; calculate measures of central tendency and dispersion; state and apply basic probability laws; draw statistical inferences using random sampling and the binomial, and normal distributions; test hypotheses; find sample sizes and confidence intervals. Prerequisite: MAT 1504 or MAT 3504 or MAT 3507 or consent of the Department Head. (5-0) 5

Course Descriptions

MAT 2515 Statistics II: A continuation of Statistics I. The student will draw statistical inferences using Student's *t*, chi-square, and *F* distributions; design experiments; use analysis of variance, and linear regression; evaluate the correlation coefficient; use non-parametric methods including the sign test. Students will select and prepare an individual project. Prerequisite: MAT 2514 or consent of the Department Head. (5-0) 5

MAT 2590 Individual Study: This course will provide the student with the opportunity to develop a special program of studies to meet a particular need not met by other offerings of the Mathematics Department. Each student or group of students works under the supervision of a member of the Mathematics Department. Prerequisite: Approval of the sponsoring instructor and the Department Head. (5-0) 5

MAT 3500 Mathematics For Firemen: A technical mathematics course designed to meet the needs of the Fire Science Program. The student will perform basic arithmetic operations on whole numbers, fractions, and decimals; perform basic algebraic operations on real numbers and polynomials; find areas and volumes; solve linear equations; solve problems using ratio and proportion; and find powers and roots. (5-0) 5

MAT 3501 Mathematics For Public Safety: A technical mathematics course designed to meet the needs of the Public Safety Program. The student will perform the basic operations of arithmetic on whole numbers, fractions, and decimals; find percentages and averages; develop and interpret statistical graphs; use the Metric System; solve equations; set up and apply ratio and proportion; use consumer mathematics. (5-0) 5

MAT 3504 Technical Mathematics I: The student will solve fractional, non-fractional, and quadratic equations; find special products and factor; graph; perform operations on algebraic fractions; rearrange formulas; solve systems of equations; and use matrices and determinants. Prerequisite: Placement examination or MAT 9510, or consent of the Department Head. (5-0) 5

MAT 3505 Technical Mathematics II: The student will perform operations on polynomials; solve and graph linear equations; simplify and perform operations on square root radicals; solve radical equations and formulas; graph non-linear functions; and find powers and roots. Prerequisite: MAT 3504 or consent of the Department Head. (5-0) 5

MAT 3507 Engineering Technology Mathematics I: The student will convert units of measurement from the English system to the metric system and conversely; perform the basic operations on algebraic expressions; factor algebraic expressions; define and recognize a function; graph; solve systems of equations graphically, algebraically, and by determinants; define and use trigonometric functions; find trigonometric functions of any angle; find vector sums and differences; and apply radians to problem solving; solve oblique triangles by law of sines and cosines. Prerequisite: Placement examination or MAT 9510, or consent of Department Head, or high school algebra II; Co-requisite: high school credit in geometry or MAT 9511. (5-0) 5

MAT 3508 Engineering Technology Mathematics II: A continuation of MAT 3507. The student will perform operations on advanced algebraic expressions; add, subtract, multiply and divide complex numbers; apply fundamental laws of exponents and of logarithms; evaluate determinants using minors, graph the trigonometric functions; verify trig identities, and solve variation problems. Prerequisite: MAT 3507 or consent of Department Head. (5-0) 5

MAT 3509 Engineering Technology Mathematics III: An applied course in analytic geometry and calculus designed for the engineering technology student. The student will solve plane analytic geometry problems related to the circle, parabola, ellipse, hyperbola, and straight line; find limits, slope of a tangent line to a curve, and derivatives; differentiate polynomials, products, quotients, powers, and implicit functions; apply the derivative to tangents and normals, curvilinear motion, related rates, curve sketching, and maximum and minimum problems; find differentials, antiderivatives, indefinite integrals; integrate numerically; and evaluate integrals using the Trapezoidal Rule. Prerequisite: MAT 3508 or consent of the Department Head. (5-0) 5

MAT 4507 Engineering Technology Mathematics IV: A continuation of MAT 3509. The student will apply integration to practical problems; find derivatives of transcendental functions; use methods of integration to evaluate integrals; and expand functions in series. Prerequisite: MAT 3509 or consent of the Department Head. (5-0) 5

MAT 5304 Basic Mathematics I: Upon completion of this course the student should be able to: (1) perform arithmetic operations on whole numbers, fractions, and decimals; (2) solve problems relating to percents, metric measurements, and graphs. (3-0) 3

MAT 5305 Basic Mathematics II: Upon completion of this course the student should be able to: (1) perform simple operations involving the fundamentals of applied algebra such as (a) symbols; (b) first degree equations; (c) ratio and proportions; (d) exponents; and (e) radicals; (2) perform simple operations involving the fundamentals of applied geometry for both flat and solid shapes; (3) perform simple operations involving the fundamentals of applied trigonometry such as (a) concepts of right triangle trigonometry; (b) sine; (c) cosine; and (d) tangent; and (4) tolerances, classes of fits and dimensional tolerancing. Prerequisite: MAT 5304 or consent of the Department Head. (3-0) 3

MAT 9500 Arithmetic: An individualized self-paced course designed for the student who needs basic mathematic skills. Upon completion of MAT 9500 students should be able to perform arithmetic operations and solve problems relating to whole numbers, fractions, decimals, percents, measurement, and introduction to algebra. (0-10) 5

MAT 9502 Algebra I: An individualized, self-paced course designed to meet the needs of any student who has not mastered elementary algebra or who needs to review algebra. Upon completion of MAT 9502, the student should be able to solve problems relating to the language and symbolism of algebra, elementary set theory, algebraic properties of the real number, solution of first degree equations, graphs of linear equations, solution of systems of linear equations by graphic and algebraic methods, factoring polynomial expressions, solution of quadratic equations. (0-10) 5

MAT 9510 Developmental Algebra: A course designed for students whose algebraic background is limited to the equivalent of high school Algebra I or for those who need to review algebra before entering college or technical mathematics. The course is now offered in two ways, as indicated on the quarter schedule: as an individualized, self-paced course or as an instructor paced (lecture) course. Upon completion of MAT 9510 the student should be able to solve equations and inequalities of first degree; solve systems of two first degree equations algebraically and graphically; graph first degree inequalities in two variables; factor quadratics; simplify radicals and exponents; and solve rational equations, second order radical equations, and quadratic equations with complex roots. Upon completion of this course the student should be prepared to take MAT 3504 if in Business Data Processing Technology, MAT 3507 if in Engineering technologies, or MAT 1504 if in the College Transfer program. (5-0) 5

MAT 9511 Modern Geometry: A lecture-discussion class for the study of plane geometry, emphasizing practical applications. This course is designed for students who need a review or for those who have not completed high school geometry. Upon completion of MAT 9511 students should be able to solve problems relating to congruency, similarity, special right triangles, areas and volumes. May also be taken concurrently with MAT 9502, MAT 9510, MAT 1504, MAT 3504 or MAT 1514. (5-0) 5

Mechanical Engineering Technology

MEC 3307 Engineering Materials: Upon completion of this course the student will be able to demonstrate familiarity with the following: (1) the most frequently used engineering materials; (2) the behavior of these materials under load and temperature change conditions; and (3) the field of application and use of various engineering materials in design and manufacturing. (3-0) 3

MEC 3405 Machine Processes I: Upon completion of this course the student should be able to: (1) discuss the various metalworking occupations and the importance of safety in shops; (2) understand and apply the principles of metal cutting theory as related to tool angles, machineability, surface finish, and the use of coolants and lubricants; (3) use precision and nonprecision measuring instruments; (4) explain the construction and use of: a) drill presses and b) engine lathes; and (5) perform basic operations on these machines. (2-6) 4

MEC 3406 Machine Processes II: Upon completion of this course the student should be able to: (1) explain the construction and use of: a) milling machines and b) surface and cylindrical grinders; (2) perform basic operations on milling machines; (3) use the following measuring devices: a) sine bar, b) precision gage blocks, c) optical flats, and d) optical comparator; (4) explain the construction and identify the principal field of application of: a) turret lathes, b) automatic cycle lathes, c) special drilling, d) boring and milling machines, and e) centerless grinders; and (5) to identify the field of application of these recently developed techniques in metal working: a) chemical milling, b) electrical discharge machining, c) electrochemical milling, and d) numerical control machining. Prerequisite: MEC 3405 or departmental permission. (2-6) 4

MEC 3524 Mechanics Of Materials: Upon completion of this course the student should be able to: (1) identify and calculate simple stresses; (2) compute the deformation and strain due to axial and shearing stresses; (3) construct shear and moment diagrams; (4) calculate stresses in beams and deflection of beams; (5) compute stresses due to combined loading; (6) analyze and design welded, bolted, and riveted connections; and (7) calculate the load carrying capacities of long and intermediate columns. Prerequisite: MAT 3508, MEC 4508. (3-6) 5

MEC 4304 Compound Angles: Upon completion of this course the student should be able to: (1) recognize and solve problems pertaining to the five basic types of solids; (2) convert orthographic drawings to pictorials; (3) recognize and solve problems related to compound drilling and boring. Prerequisite: MAT 3508, MEC 3406 or departmental permission. (2-3) 3

MEC 4404 Tool And Die Design: Upon completion of this course the student should be able to: (1) design single point and multiple point cutting tools; (2) design and draw jigs and fixtures; (3) design piercing and blanking dies; (4) design bending and forming dies; and (5) complete a design project. Prerequisite: DFT 3405, MEC 3524, MEC 4515. (2-6) 4

MEC 4405 Mechanisms: Upon completion of this course the student should be able to: (1) solve by graphical methods, and check by analytical methods, problems concerning the motion of machine elements; including the displacement, velocity and acceleration of points and lines within these elements; and (2) design the motion scheme part of Machine Design by graphical methods for cams, belts, pulleys, gears and linkages. Prerequisite: DFT 3405, MEC 4508. (2-6) 4

MEC 4425 Thermodynamics: Upon completion of this course the student should be able to: (1) explain the basic laws of thermodynamics; (2) define the technical terms used in thermodynamics; (3) write in both word and algebraic form the general energy equations; (4) use these equations for solving typical problems; and (5) work typical problems using both the English and S.I. unit systems. Prerequisite: PHY 1405, MAT 3508 (3-3) 4

MEC 4434 Hydraulics And Pneumatics: Upon successful completion of this course the student should be able to: (1) perform certain computations related to hydrostatics, hydrodynamics, and the general gas law; (2) draw hydraulic symbols; (3) make sketches of and explain how the following hydraulic and pneumatic system components work: a) fluid power pumps and motors, b) hydraulic cylinders and rams, c) fluid reservoirs, d) plumbing and related components, e) pressure, flow and directional control valves; (4) design and troubleshoot simple hydraulic circuits. Prerequisite: PHY 1405 or departmental permission. (2-6) 4

MEC 4508 Applied Mechanics: Upon successful completion of this course the student should be able to: (1) solve problems pertaining to force systems; (2) calculate the location of centroids and centers of gravity; (3) draw free-body diagrams; (4) analyze forces in simple trusses and frames; (5) calculate friction; (6) compute the moment of inertia of areas and bodies; (7) construct shear and moment diagrams; (8) solve problems related to the kinetics of particles and rigid bodies; (9) apply the laws of force and motion; and (10) perform calculations related to work, energy and power. Prerequisite: PHY 1405, MAT 3507 (3-6) 5

MEC 4.94 Independent Study: This course is designed to provide students with the opportunity to develop as special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student works under the supervision of a sponsoring staff member. Approval of the sponsor and Program Director is required prior to enrollment. (1-5 Credits)

MEC 4514 Physical Metallurgy I: Upon completion of this course the student should be able to: (1) discuss the production of iron and steel; (2) describe typical testing equipment and its use; (3) explain atomic and molecular structure of metals; (4) discuss plastic deformation, annealing, and hot working; (5) work binary phase diagram problems; (6) perform hardness, impact, and tensile tests; and (7) prepare and photograph metallographic specimen. (4-3) 5

MEC 4515 Physical Metallurgy II: Upon completion of this course the student should be able to: (1) use and explain the iron carbide phase diagram; (2) perform various heat treatments on plain carbon steel; (3) discuss surface hardening treatments; (4) explain the nature and use of alloy steels, cast irons, and nonferrous metals; (5) discuss the effect of wear and corrosion; (6) identify unmarked samples; and (7) conduct basic failure analysis. Prerequisite: MEC 4514 (4-3) 5

MEC 4604 Machine Design: Upon completion of this course the student should be able to: (1) design machine parts on the basis of function and strength of material calculations such as: a) fasteners, b) permanent joints, c) shafts and couplings, d) plain bearings, e) ball and roller bearings, f) belts and chains, g) gears, h) clutches and brakes, and i) springs; (2) select machine parts for a particular machine function by use of manufacturers' catalogs, manuals, and periodicals; (3) complete a design project. Prerequisite: DFT 3406, MEC 3524, MEC 4515. (3-6) 6

MEC 5214 Practical Metallurgy I: Upon completion of this course the student should be able to: (1) describe the production of iron and steel; (2) discuss the major forming methods; (3) explain the crystalline nature of metals; (4) discuss basic testing procedures; (5) describe the method and use of heat treating; (6) perform hardness and tensile tests; and (7) produce a metallographic sample. (1-3) 2

MEC 5215 Practical Metallurgy II: Upon completion of this course the student should be able to: (1) describe the method of classifying steel; (2) discuss the properties and use of cast irons; (3) explain the importance of metallurgy on welding; (4) describe the production and use of powder metal and nonferrous metals; (5) perform simple heat treatments on plain carbon steel; and (6) identify unmarked materials. Prerequisite: MEC 5214. (1-3) 2

Medical Office Assisting

MED 3300 Drug Therapy: At the completion of the course the student should be able to: (1) identify major drugs and/or drug groups; (2) recognize side effects; (3) describe interaction of drugs; (4) relate various methods of administration of drugs to reactions. Prerequisite: Fifth quarter standing or departmental approval. (3-0-0) 3

MED 3304 Medical Terminology And Vocabulary I: Upon completion of this course the student should be able to: (1) read and understand medical terms; (2) build medical terms from Greek and Latin prefixes, suffixes, word roots and combining forms; (3) spell medical terms correctly; (4) intelligently use a medical dictionary; (5) use appropriate abbreviations and symbols. (3-0-0) 3

Course Descriptions

MED 3305 Medical Terminology And Vocabulary II: Upon completion of this course the student should be able to: (1) pronounce and spell correctly certain medical terms; (2) define medical terms as they pertain to anatomy, physiology and diseases, operations, tumors, drugs and related descriptive terms; (3) demonstrate ability to build medical words and analyze word components. The above objectives will apply to the following systems: (a) skin and breast; (b) musculoskeletal; (c) cardiovascular; (d) blood and blood forming organs; (e) respiratory; (f) systemic diseases. Prerequisite: MED 3304. (3-0-0) 3

MED 3306 Medical Terminology And Vocabulary III: A continuation of MED 3305 with the objectives applying to the following systems: (a) neurological and psychiatric; (b) urogenital; (c) gynecological and obstetrics; (d) endocrine; (e) sense; (f) digestive. Prerequisite: MED 3304. (3-0-0) 3

MED 3315 Medical Office Administration: Upon successful completion of this course the student should be able to perform such duties as: (1) handling mail and telegrams; (2) making travel arrangements; (3) purchasing supplies; (4) maintaining office records; (5) handling insurance information; (6) assume responsibility of telephone. Prerequisite: MED 3404, MET 3400. (3-0-0) 3

MED 3404 Medical Economics: Upon completion of this course the student will be able to: (1) keep a single entry set of books; (2) maintain a checking account; (3) follow an efficient billing schedule; (4) compose effective collection letters; (5) apply rules for telephone request for payment; (6) handle special collection problems; (7) explain medical fees and assist patients in planning financing of medical care. Prerequisite: Pre-entrance testing. (3-2-0) 4

MED 4302 Medical Ethics And Law: Upon completion of this course the student should be able to: (1) describe the laws that govern the practice of medicine; (2) differentiate between the various medical practice arrangements and their legal implications; (3) describe each medical service available to the public in the community and the way each contributes to comprehensive care; (4) explain the meaning of the A.M.A. Principles of Medical Ethics and discuss how each applies to the physician and the staff; (5) list the Supreme Court decisions in which the Medical Profession is directly involved. (3-0-0) 3

MED 5104 Medical Office Assisting Seminar: This course of study will provide the students an opportunity to explore the personal and vocational responsibilities of a practitioner in the field of medical assisting. A discussion of the problems encountered during the practicum and solutions which may be applied will be shared. Co-requisite: MED 5305, MED 5807. (1-0-0) 1

MED 5304 Orientation To Health Careers: Upon completion of this course the student should be able to: (1) identify the important historical contributions to modern medicine; (2) list the major allied health professions and qualifications and duties of each; (3) evaluate emotional maturity and personality characteristics necessary for a successful health worker; (4) set realistic goals based on results of their Cognitive Map Profile, interest testing, career exploration and qualifications. Prerequisite: Pre-entrance testing. (3-0-0) 3

MED 5305 Advanced Medical Office Procedures: Upon completion of this course the student should be able to: (1) assist the physician and explain the preparation to the patient who is to have such advanced diagnostic procedures as chemotherapy, radiation and nuclear medicine; (2) demonstrate correct methods of administering medication, restraining methods, growth patterns and collection of specimens for the pediatric patient; (3) administer CPR. Co-requisite: MED 5104, MED 5807. (3-0-0) 3

MED 5307 Medical Assisting Review: Provides medical assistants and medical assisting students an opportunity to review and prepare for the certification examination administered by the National Board of Medical Examiners in conjunction with the American Association of Medical Assistants. (3-0-0) 3

MED 5390 Individual Study: Provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: Approval of the sponsor and Department Head. (3-0-0) 3

MED 5514 Symptomatology: Upon satisfactory completion of this course the student will be able to assess signs and symptoms of disease and take appropriate action when dealing with patients in a medical facility. Problem solving techniques will be utilized. Prerequisite: Fifth quarter standing or departmental approval. (5-0-0) 5

MED 5614 Laboratory Procedures: Upon completion of this course the student should be able to: (1) cite the laboratory rules of safety; (2) handle the equipment and reagents in a safe, responsible manner; (3) identify the equipment, glassware and supplies by sight and use; (4) demonstrate the basic knowledge of the simple laboratory tests done in a physician's office by performing the test with accuracy, speed, personal integrity and complete honesty. Prerequisite: Completion of First Two Quarters. Co-requisite MED 5704. (3-6-0) 6

MED 5615 Clinical Education: This course will involve the identification of a problem in a pre-arranged medical agency; the collection and analysis of data and the presentation of findings. Student must obtain prior approval by the instructor. Prerequisite: Seventh Quarter Standing. (3-0-30) 6

MED 5704 Examination Room Procedures: Upon completion of this course the student should be able to: (1) maintain a physician's office in regard to the housekeeping, ordering supplies, keeping equipment in good repair and carrying out medical asepsis; (2) assist the physician with physical examinations and minor surgery; (3) perform and assist with certain diagnostic procedures; (4) administer medications by the methods commonly used by the medical assistant in the physician's office. Prerequisite Completion of First Two Quarters. Co-requisite: MED 5614. (3-8-0) 7

MED 5807 Medical Office Practice: This course is a practicum in Medical Office Assisting. The student is assigned to a physician's office, clinic or out-patient department. Upon completion of this course the student should be able to: (1) perform the duties of the medical assistant as they apply to the assigned office; (2) demonstrate professional and communication skills necessary for the effective care of the patient; (3) express an understanding of the practice of comprehensive health care in the community. Prerequisite: MED 5614, MED 5704; Co-requisite: MED 5104, MED 5305 (0-0-24) 8

Medical Transcription

MET 3204 Medical Transcription Seminar: At the completion of this course the student should be able to: (1) identify problems that may arise when working as a Medical Transcriptionist; (2) suggest ways to solve these problems in a manner in keeping with the professional worker; and (3) express increased knowledge of basic procedures and understanding of the medical practice gained by reviewing and sharing experiences and oral reports. Prerequisite: MET 3904. Co-requisite: MET 3505. (2-0-0) 2

MET 3400 Introduction To Medical Transcribing: In this course the student will be introduced to material that is routinely transcribed in a medical office. Upon completion of this course the student should be able to transcribe given medical material accurately. Prerequisite: MED 3304 and SEC 3404. (2-4-0) 4

MET 3406 Clinical Practice II: The practice of medical transcription in a physician's office or hospital record room. At the completion of the course, the student should be able to: (1) operate transcription equipment efficiently; (2) demonstrate competency in transcribing medical reports; (3) establish positive rapport with co-workers; and (4) utilize and organize time to best advantage. Prerequisite: MET 3904 and Prerequisite or Co-requisite: MET 3505 (0-0-12) 4

MET 3505 Clinical Practice I: The practice of medical transcription in a physician's office or hospital record room. At the completion of the course, the student should be able to: (1) operate transcription equipment efficiently; (2) demonstrate competency in transcribing medical reports; (3) establish positive rapport with co-workers; and (4) utilize and organize time to best advantage. Prerequisite: MET 3904. (1-0-12) 5

MET 3904 Transcription: At the completion of this course the student should be able to: (1) demonstrate operation of dictating machines correctly and efficiently; (2) given practical situations, identify ethical and legal aspects of medical transcription; (3) given worksheets, demonstrate competency in the use of dictionaries, PDR, and other references; (4) transcribe medical reports and correspondence from a cassette, record or belt into a final typed mailable and permanent form in an assigned length of time; (5) given discussion and medical terms, relate the disease process with diagnostic and therapeutic procedures and with the anatomical parts involved; (6) given transcribed medical reports, read and explain the content of the report. Prerequisite: MET 3400. (3-12-0) 9

Management

MGT 2314 Principles Of Management: An introductory course in business management principles. Upon successful completion of the course the student should be able to describe the functions of managers, define management planning, recognize sound business objectives, illustrate organizational charts, design a staffing program, explain and apply leadership and decision-making to business cases, and identify control measures useful to business operations. Prerequisite: BUS 1400. (3-0) 3

MGT 3303 Small Business Management: A course designed for those who may want to start and operate their own business as well as those who are already business owners but wish to strengthen their entrepreneurial and management skills. Upon successful completion of the course the student should be able to assess the opportunities and risks involved in the small business; apply the techniques involved in starting a new venture including the legal aspects and development of a business plan; explain the techniques and principles of planning, organizing, directing and controlling the operating venture; and explain the methods of operating the three basic types of small businesses — retail stores, service businesses and small manufacturing plants. (3-0) 3

MGT 3331 Preparing Women As Managers: A course which examines, in depth, the role of women as business managers. Upon successful completion of the course the student should be able to recognize the basic management functions; demonstrate an understanding of the effect of socialization of women on their management performance; demonstrate decision making abilities; implement listening, verbal and non-verbal communications techniques; apply time management skills; delineate current EEO laws affecting women in business; and employ specific career strategies toward career goal attainment. (3-0) 3

MGT 3332 Career Planning For Business Women: A course designed to allow the student to experience a sequential career planning process. Upon successful completion of the course the student should be able to conduct a skill evaluation and interest survey, employ market research, develop decision-making and career attainment procedures, analyze career and family relationships, appraise life changes, dramatize job interview and contract negotiation situations, and review the concepts of professionalism and advancement strategies. EEO concepts will be integrated into learning activities. (3-0) 3

MGT 4330 Supervision: An introductory course in application of management principles and concepts to first-line supervisory positions. Upon successful completion of the course the student should be able to identify the position of the supervisor in the management structure, discuss the unique interpersonal relations required of the supervisor, identify manpower management techniques, explain the concept of job analysis and evaluation, describe supervisory leadership techniques for various job groups and evaluate the supervisor's role in labor relations. (3-0) 3

MGT 4331 Administrative Office Management: A course applying the principles and techniques of management to the flow of information within an enterprise. Upon successful completion of the course the student should be able to explain the application of principles of management to office organization, design an office layout, describe the psycho-physiological factors in office design, analyze the lease-buy decision on equipment and facilities and design a basic word-processing system. (3-0) 3

MGT 4332 Personnel Management I: An introductory course in the field of human resources management. Upon successful completion of the course the student should be able to describe the application of management principles to human resources, describe the history of personnel management, list and describe sources used in internal and external recruiting, design a personnel selection procedure, formulate employee and management development plans and identify systems used for employee performance evaluation. (3-0) 3

MGT 4333 Production, Planning, And Control: A course providing a survey of the planning, function and control of the production process in a manufacturing organization. Upon successful completion of the course the student should be able to recognize and explain the underlying principles of production management, identify and illustrate the planning concepts used in a production system, demonstrate the scheduling of machine and personnel assets, explain the process of inventory control, and outline the procedures used in quality control. (3-0) 3

MGT 4334 Management Seminar: A course for advanced management students to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to practical situations through the techniques of lecture, case study, role playing and critical incident analysis. Upon successful completion of the course the student should be able to demonstrate improved deductive and decision making capabilities through solution of case problems, identify a logical problem solving technique, extract the critical incidents in a problem situation bearing on managerial success and develop a conceptual base for organization-wide problem solving and analysis. Prerequisite: MGT 2314, MGT 4330, MGT 4331, MGT 4332 or consent of Division Head. (3-0) 3

MGT 4337 Personnel Management II: A course providing a continuation of the study of basic personnel management practices. Upon successful completion of the course the student should be able to define the factors in organizational climate, identify the channels of management communications, review the concept of managerial leadership, interpret the importance of labor relations in human resources management, design a basic wage and salary plan, outline a basic security and benefit system, and identify the role played by EEO, safety and health and financial incentive plans in personal management. Prerequisite: MGT 4332. (3-0) 3

MGT 5200 Shop Management: A course designed to introduce the trade student to the business world and to the operation of a small business. Upon successful completion of the course the student should be able to describe the importance of the small shop in the economic system, identify problems in small business operations, assemble a set of guidelines for starting a small shop, recognize the importance of business law and the maintenance of business forms and records and gain an appreciation for the role of location, taxes, inventory, advertising and employee relations in the success of a small shop. (2-0) 2

Marketing And Retailing

MKT 1304 Marketing I: This course is the first of a two-part study of Marketing. Upon successful completion the student should be able to explain the importance of marketing in our economic system; explain the marketing concept and the environment and technological factors impact on this concept; describe buyer behavior from economic, psychological, and sociological points of view; identify and classify marketing activities; distinguish among the various marketing research methods; classify products; explain product pricing and distribution strategies and their relation to the marketing process. (3-0) 3

MKT 1305 Marketing II: Upon successful completion of Marketing II, the second of the two-part course, the student should be able to: explain the three different kinds of promotion and their place in the marketing process; recognize marketing's place in current society and discuss contemporary issues; explain the growth in and importance of international marketing as well as the significance of the balance of payments; explain a fully integrated marketing program; explain the significance of the computer as a tool in the marketing process. Prerequisite: MKT 1304. (3-0) 3

MKT 3320 Fundamentals Of Selling: This course is designed to provide the student with a general survey of the various careers in selling and provide a thorough study of the selling process from the preparation to the closing of the sale. Upon successful completion the student should be able to collect proper data and prepare personally and business-wise for a sales interview, conduct a successful sales interview which will include the approach, presentation, demonstration, meeting objections and close, instill confidence and trust in the prospect by exhibiting confidence as a result of this proper preparation and the effective sales interview. Prerequisite: None; but SPH 1300 is recommended. (3-0) 3

MKT 4304 Wholesale And Manufacturing Distribution: Upon successful completion of this course the student should be able to participate in decision making sessions on Manufacturing Distribution strategies; understand the general nature of wholesaling and its place in distribution, apply such knowledge in building closer relationships between manufacturer and wholesalers; demonstrate the ability to handle inside and outside wholesale selling and quote prices, demonstrate an ability to give proper service to wholesaler's customers. Prerequisite: MKT 1304 or instructor permission. (3-0) 3

MKT 4306 Sales Management: Upon successful completion of this course the student should be able to: explain the organization and functions of territorial district, regional, and company sales management; know the difference between various types of sales organizations and their objectives; plan and conduct a sales meeting; organize and conduct a customer product meeting; record and file an expense account; and make sales forecasts. Prerequisite: MKT 3320 or instructor permission. (3-0) 3

MKT 4320 Retailing: Upon successful completion of this course the student should be able to differentiate between various types of retailers, evaluate franchises including the contract, possible locations and potential store functions and personnel; explain the buying function and role of resident buying offices; apply merchandise pricing principles and formulas; schedule and plan merchandise handling areas; explain and evaluate various store security methods; discuss the role and importance of retail advertising and plan a store promotional activity; identify display material and techniques; complete a retail sale and explain credit and collection procedures. (3-0) 3

MKT 4321 Advertising: Upon successful completion of this course the student should be able to define the role of advertising in the business environment; plan an advertising campaign which includes television, radio, newspaper, magazine, outdoor and transit, direct mail and direct response advertising and which applies basic media strategies, behavioral sciences theories and the legal restraints governing advertising; explain the role and functions of an advertising agency; identify components of copy and layouts. (3-0) 3

MKT 4322 Purchasing: Upon successful completion of this course the student should be able to define the purchasing function; describe the purchasing role in business; recognize the importance of quality assurance; explain the role purchasing plays in deciding to make or buy; discuss the relationships between production, engineering, marketing, store quality control, finance and the purchasing function; describe the importance of planning and forecasting; interpret the ethics of purchasing; develop the legal aspects of purchasing; explain the need for evaluating purchasing performance; describe EDP's usefulness in purchasing; detail the development of both the organization and personnel for purchasing. (3-0) 3

Medical Record Technology

MRT 3201 Orientation To Medical Record Technology: Upon completion of this course the student should be able to: describe the duties and educational requirements of the major allied health professional; explain the functions of the major departments of a hospital; match the allied health professional to the hospital department; trace the historical development of medicine, health care facilities, and medical records; describe the structure of the AMRA, its history and categories of membership; define "professionalism"; discuss the characteristics and qualities of a professional; describe the attributes of a good self-image; discuss the new trends in health care delivery system; identify at least ten health agencies and cite the purpose of each; describe the basic functions of a medical record department; discuss the various job opportunities of the ART; correlate the courses in the MRT program with the appropriate job responsibilities in the medical record department. Prerequisite: Pre-entrance testing. (2-0-0) 2

MRT 3202 Diagnostic Coding Systems: Upon completion of this course the student should be able to: define the purpose of classification and nomenclature systems; describe the basic principles for utilizing various nomenclature and classifications systems; identify the health care facilities utilizing each of the systems; apply the coding principles of a variety of nomenclatures and classification systems; describe the content and purpose of the physician, surgeon, disease and operation indices; cite the major functions of a Cancer Registry; collect and process data as required in Cancer Registry; discuss the historical development of nomenclature and classification systems. Prerequisite: MRT 3300 or Departmental consent. (2-0-0) 2

MRT 3204 Directed Practice I: This is the first in a series of four courses which provides supervised clinical learning experiences in local health care facilities. The student should be able to competently demonstrate the ability to: communicate effectively with others; accept the personal responsibilities of promptness, personal neatness and learning of departmental medical record procedures and practices; apply the theory of medical record practices acquired in MRT 3300 by performing various medical record skills as provided in the general hospital. Prerequisite: MED 3300; Co-requisite: MRT 3301, MRT 4404, third quarter standing, or Departmental consent. (0-0-6) 2

MRT 3205 Health Record Procedures I: Upon completion of this course the student should be able to: (1) describe the four major types of health care facilities; (2) identify major allied health professionals; (3) describe the three basic types of numbering methods utilized; (4) state the purpose of the Master Patient Index; (5) describe two methods for arranging patient index cards; (6) describe three formats of the medical record; (7) list six purposes of the medical record; (8) identify forms included in a medical record and the individual responsible for completing each form; (9) assemble five records in the prescribed order accurately. (1-2-0) 2

MRT 3206 Health Record Procedures II: Upon completion of this course the student should be able to: (1) recognize when a record is technically incomplete; (2) perform the analysis of five records accurately; (3) describe the three basic methods of filing; (4) apply the basic principles for filing; (5) describe the two basic types of filing equipment; (6) list four steps to be followed to insure accurate filing; (7) list three examples of filing supplies used to assist the file clerk; (8) describe the steps in preparing a record for microfilming. Prerequisite: MRT 3205. (1-2-0) 2

MRT 3300 Medical Record Content And Maintenance: Upon completion of this course the student should be able to: describe various numbering and filing systems (advantages/disadvantages); retrieve and file medical records by each of the three major filing systems; describe the value, uses, and contents of medical records; identify and describe the contents of various medical record forms; perform assembly and quantitative analysis of the medical record; describe the three basic formats of medical records; describe the different methods of record storage. Prerequisite: MRT 3201, Co-requisite: MRT 4315 or Departmental consent. (2-2-0) 3

MRT 3301 Quality Assurance In Health Care Facilities: Upon completion of this course the student should be able to: state the purpose and philosophy of quality assurance; discuss the impact of current health legislation on quality assurance; discuss the history and current status of quality assurance; describe the organization of the Professional Standards Review Organization system; state the JCAH and federal requirements for quality assurance; diagram the medical audit cycle and describe the activities which take place at each point in the cycle; perform audit steps of data collection and display utilizing various types of formats; discuss and perform the basic medical record procedures related to patient review procedures. Prerequisite: MRT 3300, MRT 4315, Co-requisite: MRT 4404 or Departmental consent. (2-2-0) 3

MRT 3302 Basic ICD-9-CM Coding: Upon completion of this course the student should be able to: discuss the evolution of ICD-9-CM; define the symbols, abbreviations, and conventions used with ICD-9-CM; apply the coding principles of ICD-9-CM with 80% accuracy; code and retrieve diagnoses and procedures proficiently. Prerequisite: BIO 1504, BIO 1505, MED 3305, MED 3306, MRT 3300; Co-requisite: MRT 4205 or Departmental consent. (2-2-0) 3

MRT 3414 Medical Record Statistics: Upon completion of this course the student should be able to: (1) compute the various hospital statistics and prepare reports; (2) define all terms related to hospital statistics; (3) discuss the procedures for completing vital statistics on births, deaths, and reportable diseases; (4) discuss the sources and use of health data. Prerequisite: MRT 3300, FIN 3314, Co-requisite: MRT 4206 or Departmental consent. (2-4-0) 4

MRT 3424 Principles of Disease: Upon completion of this course the student should be able to: (1) classify disease processes according to their etiology and organ system involvement; (2) discuss the physical signs and symptoms, complications, and preferred treatment of specific disease processes. Prerequisite: BIO 1504, BIO 1505, MED 3305, MED 3306. (4-0-0) 4

MRT 4205 Directed Practice II: This is the second in a series of four courses which provides supervised clinical learning experience in a local health care facility. The student should be able to: communicate effectively with others; accept the personal responsibilities of promptness, personal neatness and learning of departmental medical record procedures and practices; apply the theory of medical record practices acquired in MRT 3300, MRT 4315, and MRT 4404. Prerequisite: MET 3400, MRT 3204, MRT 3301, MRT 4404, Co-requisite: MRT 3302, fourth quarter standing, or Departmental consent. (0-0-6) 2

MRT 4206 Directed Practice III: This is third in a series of four courses which provides supervised clinical learning experience in local health care facility. The student should be able to: communicate effectively with others, accept the personal responsibilities of promptness, personal neatness and learning of departmental medical record procedures and practices; apply the theory of medical record practices acquired in MRT 4404, MRT 3301, and MRT 3302. P.R. MRT 3302, MRT 4205; Co-requisite: MRT 3414, fifth quarter standing, or Departmental consent. (0-0-6) 2

MRT 4315 Medical Record Standards And Regulations: Upon completion of this course the student should be able to: identify the major accrediting and licensing agencies and the purpose of each; discuss the role of the JCAH; cite the medical record standards set forth under Medicare/Medicaid and JCAH; describe the various types of long-term care facilities and medical record standards; recognize the basic standards for the various hospital departments with emphasis on the medical record regulations. Prerequisite: MRT 3201; Co-requisite: MRT 3300 or Departmental consent. (3-0-0) 3

MRT 4390 Individual Study: Upon completion of this course the student should be able to meet the objectives outlined by the student and instructor to meet particular student needs not provided in other courses of study. Prerequisite: Program Director approval. (3-0-0) 3

MRT 4404 Legal Aspects Of Medical Records: Upon completion of this course the student should be able to: (1) discuss the jurisdiction of the Federal and State courts; (2) describe the laws written by non-governmental bodies which affect the medical records; (3) describe the property rights and ownership of the medical record; (4) discuss the medical record as a legal document; (5) discuss consents, authorization and releases of medical information; (6) describe statutes and hospital policies which govern the uses of medical records and the information contained in them; (7) discuss the current health legislation which affects the medical record practitioner. Prerequisite: MRT 3300; Co-requisite: MRT 3302 or Departmental consent. (3-2-0) 4

MRT 4405 Medical Record Seminar: Upon completion of this course the student should be able to: (1) discuss the various personal and vocational responsibilities of the medical record practitioner; (2) analyze problems which are encountered as a medical record practitioner and discuss solutions; (3) discuss various sources of information and assistance which are available to the practicing medical record professional. Prerequisite: completion of all MRT courses, Co-requisite: MRT 4804, sixth quarter standing or departmental consent. (4-0-0) 4

MRT 4804 Directed Practice IV: Upon completion of this course the student should be able to: (1) describe the medical record functions as they relate to mental health facilities, long-term care facilities, group practices, rehabilitation centers, specialty hospitals, and neighborhood health centers; (2) discuss the role of the medical record technician in various types of health care facilities; (3) perform the medical record skills as specific to these health care facilities; (4) demonstrate positive rapport with personnel. Prerequisite: completion of all MRT courses, Co-requisite: MRT 4405, sixth quarter standing or departmental consent. (0-0-24) 8

Music

MUS 1100 Vocal Ensemble: This performing laboratory will prepare the student for public performance at the end of the session. Emphasis is upon sight-singing, demonstration and use of proper vocal techniques, tonal production and ensemble performance. The student will be given the opportunity to perform representative compositions from the major periods in music. (0-3) 1

MUS 1104 Class Voice: Upon successful completion of this course the student should be able to demonstrate correct posture, breathing and support for the resonation of vowels, proper diction and perform selected pieces from song literature.* (0-2) 1

MUS 1107 Chamber Choir: This is a practical performing class designed to acquaint the student with various styles of choral music culminating in a public performance at the end of the session. The program may vary each quarter depending upon vocal abilities and size and balance of choir. Emphasis is placed upon correct tonal production, proper vocal techniques, sight-reading, ensemble performance, and repertoire. (0-3) 1

MUS 1112 Class Strings: The student will study the principles and techniques of playing the violin, viola, cello and double bass.* (0-3) 1

MUS 1117 Wind Ensemble: An organization designed to provide the opportunity for wind instrument students to continue the study of their particular instruments and to become familiar, through ensemble performance, with music of various composers, periods and styles. (Credit cumulative not to exceed three quarter hours.) Prerequisite: Departmental consent.* (0-3) 1

MUS 1127 Orchestra: An organization designed to provide continuing performance opportunity for the student who has already developed some skills on an orchestral instrument. Emphasis will be placed on further development of the student's playing ability and an acquaintance with orchestral literature. Prerequisite: Departmental consent* (0-3) 1

*Does not satisfy humanities requirement.

Course Descriptions

MUS 1128 Concert Band: An organization designed to provide performance opportunity for the student who has already developed skills on a band instrument. Emphasis is placed on further development of skills on particular instruments as well as acquaintance with concert band literature. Prerequisite: Departmental consent.* (0-4) 1

MUS 1154 Class Piano I: In an electronic piano laboratory setting, the student will receive group instruction in the basic principles and techniques of piano playing for the beginning student. Upon successful completion of the course the student should demonstrate abilities in sightreading, transposition, improvisation and performance of simple two hand compositions.* (0-3) 1

MUS 1155 Class Piano II: A continuation of MUS 1154, the student is further acquainted with major scales, triads and inversions, and more advanced repertoire. The course utilizes the latest techniques and materials for helping the student grasp the skills of playing the piano in a laboratory setting. Emphasis is upon continued development of technique and application of skills at the keyboard. Prerequisite: MUS 1154 or Departmental consent.* (0-3) 1

MUS 1156 Class Piano III: A continuation of MUS 1155 consisting of an integrated study of literature and theory. Upon satisfactory completion the student should be able to play — in addition to a number of pieces — the chromatic, whole tone, and minor scales (in tetrachords), to harmonize minor melodies, work with secondary triads and seventh chords, and know the principles of traditional scale fingerings for major keys. Prerequisite: MUS 1155 or Departmental consent.* (0-3) 1

MUS 1157 Intermediate Piano: Upon successful completion of this course the student should have developed skills in reading, technique, theory, and musicianship needed to play a number of pieces selected from standard piano literature. (0-3) 1

MUS 1160 Classical And Flamenco Guitar: Upon successful completion of this course the student should be able to read guitar music, play major and minor chords, some seventh chords and perform selected solos by Bach, Beethoven, Torego, Aguado and Lori. The student should also be able to perform right and left hand classical technique Carcassi studies and right hand studies in the tremolo technique and flamenco strums and rasguados.* (0-3) 1

MUS 1164 Guitar: Upon successful completion of this course the student should be able to: read guitar music in the first positions, perform a selected number of guitar solos, single note passages and duets. The student should also be able to play chords in the first position and be able to transpose to other selected keys.* (0-3) 1

MUS 1165 Guitar II (Intermediate): Upon successful completion of this course, the student should be able to: read blocked and arpeggiated chords; demonstrate ability to play both a melody and accompanying arpeggio pattern; perform a selected number of etudes; arrange for solo guitar a song (or songs) to include melody with accompaniment; demonstrate increased ability to read single line. Prerequisite: MUS 1164 or consent of instructor. (0-3) 1

MUS 1171 Chords I: Upon successful completion of this course the student should be able to translate standard chord symbols into notes and play them on the keyboard, to supply the proper symbol for any given chord, reharmonize simple tunes and reduce them to lead sheets. (0-2) 1

MUS 1172 Chords II: Upon successful completion of this course the student should be able to interpret and play most standard lead sheets, reharmonize given melodies both in writing and on the keyboard, and to transpose to any given key. (0-2) 1

MUS 1174 Applied Music I: Upon successful completion of this course the student should have made significant improvement in technique and have mastered selected literature for the instrument. (1-0) 1

MUS 1183 Introduction To Modern Dance: Upon successful completion of this course the student will have acquired a knowledge of basic terminology, theory and appreciation of modern dance, as well as certain proficient execution of basic body movements as they relate to modern dance.* (0-3) 1

MUS 1184 Modern Dance I: Upon successful completion of this course the student will have acquired a sound understanding of the elements of dance with further emphasis on techniques, requiring a higher degree of skill. Prerequisite: MUS 1183.* (0-3) 1

MUS 1185 Modern Dance II: Upon successful completion of this course the student will have acquired further mastery of modern dance technique, requiring a higher degree of skill. Prerequisite: MUS 1184.* (0-3) 1

MUS 1186 Modern Dance III: Upon successful completion of this course the student will have acquired technical mastery of modern dance skills at the elementary level and will have begun exploration into different qualities of movement and different spatial relationships utilized in dance. Prerequisite: MUS 1185* (0-3) 1

MUS 1190 Character Dance: Upon successful completion of the course, the student will have acquired a knowledge of and a certain proficient execution of theatrical dance based on the national folk dances of middle and eastern Europe.* (0-3) 1

MUS 1193 Introduction To Ballet: Upon successful completion of this course the student will have acquired a fundamental movement vocabulary as employed in ballet technique, theory and appreciation of ballet, as well as certain proficient execution of basic ballet steps.* (0-3) 1

MUS 1194 Ballet I: Upon successful completion of this course the student will have acquired a firm understanding of body placement with further emphasis on technique, requiring a higher degree of skill and be able to perform simple practice exercises at the barre and in center floor. Prerequisite: MUS 1193* (0-3) 1

MUS 1195 Ballet II: Upon successful completion of this course the student will have acquired further mastery of skills in ballet techniques as well as simple movement combinations in center floor. Prerequisite: MUS 1194.* (0-3) 1

MUS 1196 Ballet III: Upon successful completion of this course the student will have acquired mastery of ballet techniques at the elementary level and have a working knowledge of basic performing skills. Prerequisite: MUS 1195.* (0-3) 1

MUS 1197 Ballet Pointe Work: Upon successful completion of this course the student will have acquired a knowledge of and a certain proficient execution of beginning pointe work, foot and leg strengthening exercises, and correct fitting and care of pointe shoes. Prerequisite: MUS 1196 or equivalent.* (0-3) 1

MUS 1274 Applied Music II: Upon successful completion of this course the student should have made significant improvement in technique and have mastered selected literature for the instrument. (2-0) 2

MUS 1300 Introduction To Music I: This course is designed to give the beginning music student a knowledge of the rudiments of music from the standpoint of rhythm and melody. The instrument studied is the recorder. Upon satisfactory completion of the course the student should be able to compose and perform simple rhythms and melodies and should have achieved some facility at playing the recorder in the range of the fifth or the octave. (3-0) 3

MUS 1301 Introduction To Music II: This course is a continuation of MUS 1300 and deals with the harmonic aspect of music as realized on the piano and the guitar. Upon satisfactory completion the student should be able to read simple melodies at the piano and harmonize then with I, IV⁶/4, and V⁶/5 chords and should be able to read and play single notes on the guitar and the most commonly used chords in a variety of strumming patterns. (3-0) 3

MUS 1304 Children's Music I: Upon completion of this course the student should be able to: (1) plan a music program for young children (ages: infant - 10 years); (2) display working knowledge of fundamentals of music; (3) play autoharp, rhythm band and Orff instruments; and (4) develop a resource file of methods and materials.* (3-0) 3

*Does not satisfy humanities requirement.

*Does not satisfy humanities requirement.

MUS 1305 Children's Music II: A continuation of MUS 1304. In addition, the student will become familiar with children's song literature, recordings and basic trends in music education. Each student will be responsible for making observations of various music programs in the community. Prerequisite: MUS 1304.* (3-0) 3

MUS 1310 Introduction To Music Theory: A beginning or refresher course for the student with little or no keyboard background, this course should prepare the student for Music Theory I. Included are the fundamentals of music theory, notation, major and minor scales, intervals and basic chord structure. Upon successful completion of the course the student should demonstrate a better understanding of the basic principles and application of music theory. (3-0) 3

MUS 1314 Music Appreciation I: Upon successful completion of this course a student should have developed skills in basic listening and understanding of the art of music. Class material will introduce students to basic musical terminology, form and history. This perspective should enable the student to be an informed listener. (3-0) 3

MUS 1315 Music Appreciation II: Upon successful completion of this course a student should have developed skills in basic listening and understanding of music from the Baroque and Classical periods. (3-0) 3

MUS 1316 Music Appreciation III: Upon successful completion of this course a student should have developed skills in basic listening and understanding of music from the Romantic and Contemporary periods. (3-0) 3

MUS 1324 Recording Studio Techniques I: The student will be introduced to the recording studio from an artistic and operational point of view, the operation and function of audio consoles, microphones, multi-track recorders, echo chambers and their relationship to the musician, sound engineer and producer.* (3-0) 3

MUS 1325 Recording Studio Techniques II: This course is a continuation of MUS 1324 with observation of multi-track recording and mix-down, mike placement and patch bay functions. Students participate as producers, musicians, singers and back-up voices while the instructor demonstrates the use of studio equipment. Students will also produce and participate in radio spots. Prerequisite: MUS 1324.* (0-6) 3

MUS 1326 Recording Studio Techniques III: This is the last of a series of three courses in Recording Studio Techniques. The course is predominantly a recording studio workshop whereby the student is given the opportunity to create and produce commercial music, operate the console and tape recorders, and exhibit creativity in phases that hold the most interest. Prerequisite: MUS 1325.* (0-6) 3

MUS 1334 Music Manuscript I: Autography And Preparation: This course is designed to teach the serious music student the fundamental skills in music calligraphy including notational techniques, technical vocabulary, and editing procedures by which music is prepared for performance and graphic reproduction by autography. Prerequisite: Basic Music Literacy.* (2-2) 3

MUS 1335 Music Manuscript II: This course will enlarge and develop the skills which the student has acquired in MUS 1334 with the addition of further techniques and specific problems encountered by the copyist. Prerequisite: MUS 1334.* (2-2) 3

MUS 1404 Music Theory I: This course is concerned with the development of harmony dealing specifically with the principal triads including elementary work in melodic and rhythmic dictation, keyboard, and sight singing. The student should be able to write a simple diatonic melody and harmonize it according to Eighteenth Century techniques upon successful completion of this course. Prerequisite: MUS 1310 or Departmental consent. (3-2) 4

MUS 1405 Music Theory II: This course is a continuation of MUS 1404. The secondary triads and chord inversions are introduced in the development of harmony and more advanced work is done in dictation, keyboard, and sight singing. The student should be able to write a four voice choral piece and analyze it upon successful completion of this course. Prerequisite: MUS 1404. (3-2) 4

*Does not satisfy humanities requirement.

MUS 1406 Music Theory III: This course is a continuation of MUS 1405. Minor keys and seventh chords are studied in harmony and more advanced work is done in dictation, keyboard and sight singing. The student should be able to analyze and to write a diatonic piece in Baroque style and a song with piano accompaniment upon successful completion of the course. Prerequisite: MUS 1405. (3-2) 4

MUS 2000 Seminar In Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours and credit hours to be variable. Contact: TBA. Credit: 1

MUS 2100 Seminar In Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours to be variable. Contact: TBA. Credit: 1

MUS 2154 Advanced Class Piano I: Upon successful completion of this course the student should be able to harmonize simple tunes using secondary dominants and play a minimum number of technical studies and selected pieces of piano literature. Prerequisite: MUS 1157 or Departmental consent.* (0-3) 1

MUS 2155 Advanced Class Piano II: A continuation of MUS 2154. The course emphasizes technical development and mastery of music from several historical periods. The student will be able to play three or more etudes and pieces studied by the entire class and will in addition be able to perform one or more pieces selected to improve or capitalize on individual pianistic ability. Prerequisite: MUS 2154 or Departmental consent.* (0-3) 1

MUS 2156 Advanced Class Piano III: A continuation of MUS 2155. Technical and stylistic problems are dealt with both individually and collectively. Upon successful completion of this course the student should be able to perform one movement of a Classical sonata, a Baroque dance, and a Romantic or Contemporary work, or the equivalent. Prerequisite: MUS 2155 or Departmental consent.* (0-3) 1

MUS 2158 Piano Ensemble: Designed for students having completed six or more quarters of piano, this class is an introductory study of piano literature requiring two or more persons performing on one or more pianos. Emphasis is upon ensemble performance, repertoire, sight reading and continued technique building. Prerequisite: MUS 2156 or Departmental consent.* (0-3) 1

MUS 2174 Advanced Applied Music I: Upon successful completion of this course the student should have made further improvements in technical and musical skills and have mastered a more advanced level of literature for the instrument. (1-0) 1

MUS 2184 Advanced Modern Dance I: Upon successful completion of this course the student will have made significant progress in technique and have acquired an understanding of kinesthesia (body energy). Prerequisite: MUS 1186.* (0-3) 1

MUS 2185 Advanced Modern Dance II: Upon successful completion of this course the student will have acquired further mastery of modern dance skills and an understanding of musical structure and how it relates to phrasing in dance. Prerequisite: MUS 2184.* (0-3) 1

MUS 2186 Advanced Modern Dance III: Upon successful completion of this course the student will have acquired technical mastery of modern dance skills at an intermediate level, have a firm working knowledge of the elements of dance and be introduced to different dance selections representative of the modern dance repertoire. Prerequisite: MUS 2185.* (0-3) 1

MUS 2194 Advanced Ballet I: Upon successful completion of this course the student will have made significant progress in technique and have achieved a performing proficiency of set patterns. Prerequisite: MUS 1196.* (0-3) 1

MUS 2195 Advanced Ballet II: Upon successful completion of this course the student will have acquired further mastery of ballet technique and the application of variables affecting performance. Prerequisite: MUS 2194.* (0-3) 1

*Does not satisfy humanities requirement.

Course Descriptions

MUS 2196 Advanced Ballet III: Upon successful completion of this course the student will have acquired mastery of ballet technique at an intermediate level as well as the ability to execute and perform complicated movement variations in extended sequences (more than one phrase). Prerequisite: MUS 2195.*

(0-3) 1

MUS 2200 Seminar In Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours to be variable.

Contact: TBA. Credit: 2

MUS 2204 Special Problems In Music: An advanced problems course in which the student will select a topic for independent study involving laboratory and library work. Prerequisite: Approval of Department Head.*

(1-3) 2

MUS 2257 Jazz Piano: Upon successful completion of this course the student should be able to construct jazz chords from written chord symbols on the keyboard, write these chords on manuscript paper and be able to take a standard popular tune and reharmonize it according to certain basic rules. Prerequisite: MUS 2156 or Departmental consent.*

(1-3) 2

MUS 2274 Advanced Applied Music II: Upon successful completion of this course the student should have made further improvements in technical and musical skills and have mastered a more advanced level of literature for the instrument.

(2-0) 2

MUS 2284 Choreography I: Improvisation Upon successful completion of this course the student should be able to complete exercises utilizing spontaneous movement which creatively apply elementary principles of composition. Prerequisite: One year of dance training.

(0-4) 2

MUS 2285 Choreography II: Fundamentals Of Composition Upon successful completion of this course the student should be able to demonstrate the elements of time and space as they relate to the fundamentals of dance composition. Prerequisite: One year of dance training plus MUS 2284.

(0-4) 2

MUS 2286 Choreography III: Dance Forms Upon successful completion of this course the student should be able to demonstrate the use of form within a dance and various techniques of manipulating a form. Prerequisite: One year of dance training plus MUS 2285.

(0-4) 2

MUS 2300 Seminar In Music: A lecture-laboratory course devoted to special areas of music which can be effected over one or several meetings. Contact hours to be variable.

Contact: TBA. Credit: 3.

MUS 2338 Opera Workshop: This course is designed to help the student gain knowledge in interpretation and style of operatic literature and gain experience through performance and opera productions. Registration upon consent of the instructor.*

(0-6) 3

MUS 2404 History And Literature Of Music I: A study of music from ancient times through the Renaissance. Upon successful completion of the course the student should be able to trace the development of music — its styles and forms — from ancient times through the Middle Ages and the Renaissance to 1600. The student should know the major composers and should be able to identify some specific works of music and/or forms. Prerequisite: the ability to read music and MUS 1314 or Departmental consent.

(3-2) 4

MUS 2405 History And Literature Of Music II: A study of music of the Baroque and Classical periods up through the early and middle works of Beethoven. Upon successful completion of the course the student should be able to describe the more important characteristics and forms, vocal and instrumental, of each period as represented especially in the works of Monteverdi, Corelli, Vivaldi, Bach, Handel, Haydn, Mozart, and Beethoven, and should be able to identify some specific works. Prerequisite: MUS 2404 or Departmental consent.

(3-2) 4

MUS 2406 History And Literature Of Music III: A study of music of the Romantic Period beginning with late Beethoven and proceeding through the Twentieth Century. Upon successful completion of the course the student should be able to trace the major musical developments through the Nineteenth and Twentieth Century with respect to melody, rhythm, harmony, form, instrumentation. The student should be acquainted with a variety of music by the major Romantic and Contemporary composers and be able to describe and distinguish style characteristics of a number of composers. Prerequisite: MUS 2404 and MUS 2405 or Departmental consent.

(3-2) 4

MUS 2407 Advanced Music Theory I: A continuation of MUS 1406. Chromatic harmony is dealt with by way of secondary dominants and modulation. Phrases and periods are studied and work is continued in sight singing, dictation and keyboard. Upon successful completion of the course the student should be able to write a piece which modulates to another key and to analyze the phrase structure. Prerequisite: MUS 1406.

(3-2) 4

MUS 2408 Advanced Music Theory II: A continuation of MUS 2407. Chromatic harmony is studied further by way of diminished seventh chords. Two and three part forms are discussed as well as advanced work in sight singing, dictation and keyboard. Upon successful completion of the course the student should be able to harmonize a modulating melody in Baroque and Classical style and analyze the form of a simple work from those periods. Prerequisite: MUS 2407.

(3-2) 4

MUS 2409 Advanced Music Theory III: A continuation of MUS 2408. Chromatic harmony is dealt with in ninth and altered chords, modulation to distant keys, and Twentieth Century styles. Overall form is studied and work is continued in sight singing, dictation and keyboard. Upon successful completion of this course the student should be able to analyze harmonically and melodically works in traditional style and to write a piece incorporating the above in Twentieth Century style. Prerequisite: MUS 2408.

(3-2) 4

* Does not meet humanities requirement.

Nurse Aide

NUA 5700 Nurse Aide Skills I: Upon completion of this course the student should be able to: (1) provide for the hygienic needs of patients; (2) provide a safe environment for patients; (3) utilize principles of body mechanics in giving patient care; (4) demonstrate the ability to perform basic nursing skills and procedures; (5) demonstrate appropriate behavior in patient care setting; (6) follow policies and procedures of the clinical agency. Prerequisite: Admission to program. Co-requisite NUA 5701.

(3-0-12) 7

NUA 5701 Nurse Aide Skills II: Upon completion of this course the student should be able to: (1) demonstrate effective working relationships in the clinical setting; (2) appreciate the role of the nurse aide as a member of the health team; (3) use appropriate terminology in reporting and recording; (4) accept responsibility for own actions; (5) recognize the special needs of patients; (6) communicate appropriately in the clinical setting. Prerequisite: Admission to program. Co-requisite: NUA 5700.

(3-0-12) 7

Nursing, Associate Degree

NUR 3305 Nutrition For Nurses: Upon completion of this course the student should be able to: (1) identify the basic nutrients and basic nutritional needs of all age groups; (2) describe the composition of common hospital diets; (3) recognize the need for and interpret modified diets; and (4) demonstrate awareness of the role of the nurse in relation to the dietary needs of clients. Prerequisite: NUR 3704. Co-requisite: NUR 3805.

(3-0-0) 3

*Does not satisfy humanities requirement.

NUR 3704 Fundamentals Of Nursing I: Upon completion of this course the student should be able to: (1) demonstrate ability to utilize the nursing process in providing basic care of hospitalized clients; (2) apply to client care the concepts of Maslow and Erikson; (3) demonstrate interpersonal and professional relationships; (4) identify needs of the geriatric client; (5) administer oral medications; and (6) perform basic technical nursing skills. Prerequisite: Admission to program. Co-requisite: PSY 2504, BIO 1504.

(3-4-6) 7

NUR 3805 Fundamentals Of Nursing II: Upon completion of this course the student should be able to: (1) provide pre- and postoperative nursing care for clients; (2) administer oral and parenteral medications; (3) utilize the nursing process to provide care for clients with musculoskeletal disorders; (4) begin to function as members of the health care team in a general hospital setting. Prerequisite: NUR 3704, BIO 1504, PSY 2504. Co-requisite: NUR 3305, BIO 1505.

(3-4-9) 8

NUR 3806 Care Of The Adult Client I: Upon completion of this course the student should be able to: (1) integrate knowledge learned from previous nursing and related courses to provide safe nursing care; (2) demonstrate responsible professional behavior; (3) provide nursing care for clients experiencing alterations in fluid and electrolyte balance; (4) apply the nursing process to care for clients and their families with hematological problems; (5) apply the nursing process to care for clients and their families experiencing alterations in cardiovascular function and respiratory function to promote optimum self-care recognizing legal and ethical implications; (6) respond with appropriate attitude therapy to client behavior; (7) demonstrate assertiveness in communicating with instructors, peers, clients, and members of the health care team. Prerequisite: NUR 3805, BIO 1505, NUR 3305. Co-requisite: BIO 1503, SOC 2514.

(3-4-9) 8

NUR 3905 Care Of The Adult Client II: Upon completion of this course the student should be able to: (1) integrate knowledge learned from previous nursing and related courses to provide safe nursing care; (2) demonstrate responsible professional behavior; (3) apply the nursing process to care for clients and their families with alterations of pituitary, adrenal, thyroid, and parathyroid and prevent complications to the extent possible; (4) apply the nursing process to care for clients and their families with complicated and uncomplicated diabetes mellitus to obtain optimum self-care; (5) utilize the nursing process to care for clients experiencing alterations, gastrointestinal function to maintain optimal nutrition, prevent complications, and promote optimum self-care recognizing legal and ethical implications; (6) identify to clients and families with alterations in gastrointestinal function options that permit sexual intimacy, participation and personal satisfaction; (7) use the nursing process to care for clients experiencing alterations in cellular function and proliferation to maintain optimum function, prevent complications and promote optimum self-care recognizing legal and ethical implications. Prerequisite: NUR 3904, BIO 1503, SOC 2514. Co-requisite: PSY 2514.

(3-4-12) 9

NUR 4216 Physical Assessment For Nurses: Upon completion of this course the student should be able to: (1) obtain a basic health history; (2) physically assess the major body systems; (3) recognize deviations from normal assessment findings; and (4) utilize physical assessment findings in making nursing judgments. Prerequisite: R.N. or Co-requisite: NUR 4906.

(2-0-0) 2

NUR 4304 Nursing Perspectives: Upon completion of this course the student should be able to: (1) identify and discuss current issues in nursing; (2) relate personal, legal, professional and ethical responsibilities to the practice of nursing; (3) identify the roles and responsibilities of the Associate Degree Nurse upon graduation. These perspectives guide the student toward her goal after graduation of employment and/or sequential education. Co-requisite: NUR 4906.

(3-0-0) 3

NUR 4314 Mental Health Nursing A: Upon completion of this course the student will be able to: (1) be aware of her/his own needs and responses based on personal experiences which influence behavior toward clients; (2) provide basic support by understanding human behavior in the maladaptive dimension; (3) be knowledgeable about basic mental health concepts which constitute a foundation for nursing interventions; (4) initiate a problem-solving approach to utilize the nursing process in psychiatric nursing; (5) understand the relevance of somatic as well as interactional therapy of treatment approaches and trends in psychiatric nursing; (6) respond to the mentally ill client with a high level of human and informed nursing interventions. Prerequisite: NUR 3905, SOC 2514, PSY 2514.

(1-2-3) 3

NUR 4315: Mental Health Nursing B: Continuation of NUR 4314. Prerequisite: NUR 4314, NUR 3905, SOC 2514, PSY 2514.

(1-2-3) 3

NUR 4714 Maternal-Neonatal Nursing: Upon completion of this course the student should be able to: (1) apply the concept of family-centered maternity care; (2) assess the needs of the mother and family during the antepartal, intrapartal, and postpartal periods and use this assessment as a basis for providing nursing care; (3) teach health care to promote a physically safe delivery for mother and baby, and an emotionally satisfying experience for mother, father, and baby; (4) assess the newborn infant's needs and use the assessment as a basis for giving nursing care; (5) teach the parents basic infant care; and (6) recognize signs and symptoms of the common obstetrical complications and take appropriate nursing action. Clinical learning experiences will coincide with classroom theory. Prerequisite: NUR 3905, SOC 2514, PSY 2514. (2-4-9) 7

Nursing, Practical

NUP 5104 Vocational Relationships: Upon completion of this course the student should be able to: (1) make application for licensure by examination and by endorsement; (2) identify nursing organizations and their functions; (3) follow appropriate procedures in seeking employment; (4) identify the two roles of a Licensed Practical Nurse; (5) relate specific legal aspects to nursing practice. Co-requisite: NUP 5706, NUP 5707.

(1-0-0) 1

NUP 5203 Orientation To Vocational Relationships: Upon completion of this course the student should be able to: (1) discuss the historical development of nursing; (2) define health team, medical team and nursing team; (3) set realistic standards for own achievement; (4) list ethical and legal responsibilities in nursing. Prerequisite: Admission to Program. Co-requisite: NUP 5704.

(2-0-0) 2

NUP 5390 Individual Study: This offering is being made to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and Department Head is required.

(3-0) 3

NUR 4715 Nursing Of Children: Upon completion of this course the student should be able to: (1) plan, implement and evaluate nursing care for children (infancy through adolescence) with common childhood diseases such as hereditary disorders, congenital anomalies, infectious diseases, accidental injuries, oncological disorders, endocrine disorders, musculoskeletal abnormalities, respiratory disorders and cardiovascular disorders; (2) recognize both normal and abnormal growth and development and implement nursing care to meet the child's psychosocial needs; (3) provide health care teaching for the pediatric client and family. Prerequisite: NUR 3905, PSY 2514.

(2-4-9) 7

Course Descriptions

NUR 4906 Advanced Care Of The Adult Client: Upon completion of this course the student should be able to: (1) assess the nursing needs, plan, implement, and evaluate nursing care for the critically ill adult client; (2) identify stressors that contribute to physical and mental illness in the adult and utilize these in the development of long term goals for the client and family; (3) demonstrate the ability to apply leadership skills when assigned to the role as team leader or team member in the clinical area; (4) interact with other health team members with the intent to modify client care; (5) demonstrate the understanding of scientific principles underlying the care of clients requiring acute cardiac care, acute respiratory care, acute neurological care, acute renal care, acute burn care, and acute emergency care when caring for clients assigned during the clinical experience; and (6) apply knowledge and skills gained in all previous courses when caring for clients. Prerequisite: NUR 4714, NUR 4715, NUR 4314, and NUR 4315. Co-requisite: NUR 4304. (3-4-12) 9

NUP 5400 Basic Principles Of Drug Administration: Upon completion of this course the student should be able to: (1) demonstrate competence in the use of the systems of measurements in computing drug dosage; (2) follow established procedure in preparing oral and parenteral medications; (3) identify sources and purposes of commonly used drugs; (4) identify various forms in which drugs are packaged; (5) prepare drug cards utilizing appropriate information and resources; (6) identify safety measures necessary in administration of drugs; (7) identify action, side effects, common names and uses of specific drugs; (8) classify drugs according to therapeutic purposes; (9) list state and federal laws regulating the use of drugs. Prerequisite: NUP 5704. Co-requisite: NUP 5904. (3-2-0) 4

NUP 5704 Introduction To Patient Care: Upon completion of this course the student should be able to: (1) establish effective, professional relationships in the classroom and clinical setting; (2) use proper body mechanics in carrying out patient care; (3) identify basic nursing needs and implement measures necessary to meet these needs; (4) provide safety and comfort measures for all patients; (5) make accurate observations and report and record appropriately; (6) maintain a therapeutic environment in the patient care setting; (7) compute and measure drug dosages; (8) demonstrate basic nursing skills and procedures in caring for patients; (9) follow policies and procedures of clinical agency. Prerequisite: Admissions to Program. Co-requisite: NUP 5203. (3-4-6) 7

NUP 5705 Care Of Patients With Med/Surgical Conditions II: Upon completion of this course the student should be able to: (1) apply previously learned knowledge and skills in planning patient care for patients with Med/Surgical conditions; (2) carry out aseptic technique in patient care; (3) administer oral and parenteral medication; (4) plan and implement patient care according to specific needs of patient; (5) provide safe effective nursing care to selected patients with specific Med/Surgical conditions; (6) behave at all times in a professional manner with patients, co-workers, instructors, nurses and medical staff; (7) do an objective self-evaluation of their performance. Prerequisite: NUP 5400, NUP 5904. Co-requisite: NUP 5717. (2-4-9) 7

NUP 5706 Care Of Infants And Children: Upon completion of this course the student should be able to: (1) provide safe nursing care for children from infancy through adolescence; (2) identify common growth and developmental tasks, and needs of children; (3) set priorities based upon principles of growth and development in organizing patient care; (4) compare the needs of the well child and the sick child; (5) identify anatomical differences between the child and adult; (6) provide nursing care for those disorders most commonly associated with childhood. Prerequisite: NUP 5705, NUP 5717. (2-4-9) 7

NUP 5707 Care Of Mothers And Newborn Infants: Upon completion of this course the student should be able to: (1) carry out the function of the Practical Nurse in care of mothers and infants during pregnancy, childbirth and the post-partum period; (2) demonstrate a knowledge and understanding of human sexuality, normal growth and development during pregnancy, and the processes of labor and delivery; (3) compare the psycho-prophylactic and the traditional methods commonly used in childbirth; (4) identify common discomforts of the antepartum and postpartum periods and give measures to relieve these discomforts; (5) report pertinent observations to the Registered Nurse in caring for the maternity patients with complications. Prerequisite: NUP 5705, NUP 5717. (2-4-9) 7

NUP 5717 Care of Patients With Med/Surgical Conditions III: Upon completion of this course the students should be able to: (1) outline specific nursing care measures for patients with specific conditions; (2) perform effectively in an assisting role to the Registered Nurse; (3) follow directions in carrying out delegated responsibilities in care of patients; (4) assist in carrying out rehabilitative measures for patients. Prerequisite: NUP 5705. (2-4-9) 7

NUP 5904 Care Of Patients With Med/Surgical Conditions I: Upon completion of this course the student should be able to: (1) provide the nursing needs of patients with various medical/surgical conditions; (2) administer oral and parenteral medication; (3) develop and implement a nursing care plan for selected patients; (4) use appropriate therapeutic measures; (5) demonstrate knowledge of principles of asepsis; (6) recognize and meet the needs of the geriatric patient; (7) apply previously learned principles in meeting physical, emotionally and social needs of patients; (8) demonstrate an understanding of ways in which an individual responds to illness; (9) display acceptable behavior in the patient care setting. Prerequisite: NUP 5704. Co-requisite: NUP 5400. (3-2-15) 9

Philosophy

PHI 1500 Introduction To Philosophy: An introduction to the basic problems of mankind and some philosophical solutions which emphasize those systems of thought which deal with these problems. Upon completion of this course the student will be able to construct guidelines for decision-making based on knowledge of the wisdom of past thinkers. (5-0) 5

PHI 2500 Logic: An intensive study of the methodology of reasoning, including principles of induction and deduction. Upon completion of this course the student will be able to recognize the inconsistency in any given line of reasoning and to construct a persuasive argument based on reliable information regarding the subject matter. (5-0) 5

Physics

PHY 1300 Science And Society: This course is designed to make the student more familiar with science as a part of cultural influence. The successful student will become aware of some of the most significant discoveries in the development of modern technological society, and their effect upon the art, politics, religion, etc. of the time. It is intended that the student become particularly aware of potential future conflicts between technology and humanism. (3-0) 3

PHY 1400 Science And Society: The same lecture as PHY 1300 with the addition of laboratory experience for physical science credit. The student will perform facsimiles of several classical experiments and become familiar with some basic laboratory apparatus. (3-2) 4

PHY 1404 Physics I: Basic Mechanics: The first course in the introductory physics sequence designed to meet the needs and interests of students in technology programs and students working towards bachelor's degrees in areas other than engineering, mathematics or physical science. Upon successful completion of this course, the student will demonstrate proficiency in the use of the International System of units and have an understanding of the basic principles of linear motion, force, equilibrium, friction, energy, power and momentum. The student's understanding will be demonstrated primarily by solving problems involving the fundamentals of these physical concepts. Prerequisite: MAT 1504, MAT 3504, high school equivalent, or departmental permission. (3-2) 4

PHY 1405 Physics II: Elastic And Thermal Properties Of Matter: A continuation of PHY 1404 which includes the study of such topics as rotational dynamics, elastic moduli, simple harmonic motion, thermal properties of matter, gas laws and heat transfer. For successful completion of the course, the student should master the terminology and the physical units used in these topics and be able to solve basic problems selected from these areas. Prerequisite: PHY 1404. (3-2) 4

PHY 1406 Physics III: Electricity And Magnetism: The third course in the introductory physics sequence. Topics included are static electricity, electric fields and potential, simple DC circuits, simple AC circuits, magnetism, and electromagnetic induction. These topics are treated with both a qualitative and a problem solving approach. Prerequisite: PHY 1404. (3-2) 4

PHY 1407 Physics IV: Modern Physics: The last of the introductory physics sequence is an overview of the most significant discoveries in physics which have radically changed our views of nature since the Nineteenth Century. Beginning with general wave phenomena, the course progresses through em waves, physical optics, atomic structure, and a cursory treatment of the basics of quantum theory, relativity and nuclear processes. Prerequisite: 1404 and 1406 or Departmental permission. (3-2) 4

PHY 1500 Introduction To Astronomy: This course introduces the student to the historical development of astronomy, the basic tools and techniques of astronomy, and past and present cosmological models. Upon completion of the course the student should be able to use an astronomical coordinate system and a star map to locate a prominent astronomical feature, be able to describe the relative locations, motions and composition of the major components of the solar system, and briefly describe major cosmological phenomena such as red shift, pulsars, super novae, etc. (4-2) 5

PHY 2504 General Physics I: Mechanics: The first of a three-course sequence designed primarily for students majoring in physical science, engineering or mathematics. Upon successful completion of this course the student should be able to demonstrate an understanding of principles of kinematics, particle dynamics, energy and momentum, particularly through the solution of appropriate problems of a level requiring the use of calculus and vector analysis. Prerequisite: MAT 1524 or Departmental consent. (4-2) 5

PHY 2505 General Physics II: Molecular Physics And Waves: A continuation of the sequence beginning with PHY 2504. Upon successful completion of this course, the student should be able to demonstrate an understanding of principles of molecular physics, thermal properties of matter, wave mechanics and related topics. Prerequisite: PHY 2504 or Departmental consent. (4-2) 5

PHY 2506 General Physics III: Electricity And Magnetism: The third in the sequence of courses beginning with PHY 2504. Students completing this course should be able to solve rather rigorous problems in the area of electrical fields, current electricity and electromagnetic fields. Prerequisite: PHY 2505 or Departmental consent. (4-2) 5

PHY 2507 General Physics IV: Optics And Modern Physics: This is the fourth course in the General Physics sequence which is designed for students majoring in Physical Science, Engineering, or Mathematics. Upon successful completion of the course the student should be able to demonstrate conceptual understanding and the capability of solving problems involving electromagnetic oscillations, Maxwell's equations, geometric optics, optical spectra, the quantum, and nuclear emissions. Prerequisite: PHY 2504 and 2506 or PHY 1404, 1406 and strong math background. (4-2) 5

PHY 3324 Radiation Physics I: This course is designed primarily for, but not limited to, Radiology Technology students. Upon successful completion of this course, the student should have a background in structure of matter, basic electricity and magnetism, and the nature of electromagnetic radiation to comprehend the theories underlying the construction and operation of a basic radiography unit. Prerequisite: high school credit in algebra. (2-2) 3

PHY 3325 Radiation Physics II: A continuation of PHY 3324. Upon completion of this course the student should be able to draw and explain basic radiography circuitry, and should be able to explain the basic principles of radiation dosage, detection, protection, and simple nuclear processes. Prerequisite: PHY 3324. (2-2) 3

PHY 3414 Physics Of Respiratory Therapy: The student successfully completing this course should have an overview of basic principles related to properties of matter, energy, heat, gas laws and basic electricity, with particular emphasis on applications to Respiratory Therapy. (3-2) 4

PHY 5304 Shop Science I: An introductory course in physics and its application covering systems and measurement and properties of solids, liquids and gases. Much emphasis is placed upon the principles of electricity including electron theory, magnetism and electromagnetism. The production, transmission, distribution, measurement and specific application of electrical energy also constitute major areas of study. The successful student will demonstrate an acceptable level of understanding by passing a series of mastery quizzes designed to cover each of the topics listed. (2-2) 3

PHY 5305 Shop Science II: A continuation of PHY 5304. Principles of force, motion, work, energy, power and mechanisms' mechanical advantage are treated extensively. The production and transmission of heat and its conversion into work are covered. Student mastery testing is again employed. (2-2) 3

Small Engine and Powerboat Mechanics

PME 5210 Outboard Motor Repair I: Upon completion of this course the student should have: (1) demonstrated an understanding of basic electrical systems theory; (2) serviced common outboard ignition systems; (3) serviced cranking motor systems; (4) serviced charging systems; (5) demonstrated an understanding of fuel induction systems; (6) serviced fuel induction systems. (1-3) 2

PME 5211 Small Engine Repair I: Upon completion of this course the student should have: (1) demonstrated an understanding of the basic operations of two-stroke cycle air cooled engines; (2) demonstrated an understanding of magneto ignition systems; (3) serviced at least two types of ignition systems; (4) demonstrated an understanding of carburetor; (5) serviced at least three types of carburetors; (6) serviced recoil starters. (1-3) 2

PME 5214 Small Engine Overhaul: Upon completion of this course the student should be able to service most small air cooled two- or four-stroke cycle engines. This service will include: (1) disassembly and reassembly; (2) measuring components for wear; (3) servicing valves; (4) resizing cylinders; (5) replacing bearings and bushings. Prerequisite: PME 5211. (1-3) 2

PME 5220 Chain Saw Repair: Upon completion of this course the student should have serviced several types of gasoline powered chain saws. This will include service on: (1) ignition systems; (2) fuel systems; (3) powerheads; and (4) cutting units. (1-3) 2

Course Descriptions

PME 5301 Small Engine Electrical And Fuel Systems: Upon completion of this course the student should demonstrate an understanding of electrical and fuel systems used on small gas engines and related equipment. This will include servicing, testing and trouble-shooting: (1) ignition; (2) charging; (3) starting; and (4) carburetion. (2-3) 3

PME 5322 Outboard Lower Unit Service: Upon completion of this course the student will have serviced at least three types of lower units. This service will include: (1) removal and installation of lower unit; (2) service of manual shift gear case; (3) service of hydraulic shift gear case; (4) replacement of bushings and bearings; (5) proper adjustment of gear case. (2-3) 3

PME 5410 Outboard Electrical And Fuel Systems: Upon completion of this course the student should demonstrate an understanding of the operation of common electrical and fuel systems used on modern outboard motors and serviced the following on these motors: (1) ignition system; (2) charging system; (3) starting system; (4) carburetion; (5) fuel delivery systems. (2-6) 4

PME 5411 Power Transmission And Drive Systems: Upon completion of this course the student should have serviced several types of drive components used on self-propelled yard, garden, and small construction and industrial equipment. This service will include: (1) clutch service; (2) transmission service; (3) transaxle service; (4) reduction gears and differentials; (5) hydrostatic drives. (2-6) 4

PME 5421 Outboard Powerhead Service: Upon completion of this course the student should have serviced the powerhead assembly on at least two types of outboard motors. This service will include: (1) powerhead removal and replacement; (2) powerhead disassembly and reassembly; (3) cylinder service; (4) piston, connecting rod, and crankshaft service; (5) bearing and seal service. (2-6) 4

PME 5423 Stern Drive Service: Upon completion of this course the student will have serviced at least two different types of stern drives. This service will include: (1) gear housing service; (2) gimbal housing and bearing service; (3) tilt trim service; (4) direct drive service; (5) cooling and lubrication. (2-6) 4

PME 5421 Outboard Powerhead Service: Upon completion of this course the student should have serviced the powerhead assembly on at least two types of outboard motors. This service will include: (1) powerhead removal and replacement; (2) powerhead disassembly and reassembly; (3) cylinder service; (4) piston, connecting rod, and crankshaft service; (5) bearing and seal service. (2-6) 4

PME 5423 Stern Drive Service: Upon completion of this course the student should have serviced at least two different types of stern drives. This service will include: (1) gear housing service; (2) gimbal housing and bearing service; (3) tilt trim service; (4) direct drive service; (5) cooling and lubrication. (2-6) 4

Political Science

POL 1502 American Politics: The student will analyze the three branches of American national government and the ways in which they interact with each other, and with political parties, interest groups, and the electorate in political decision-makings. (5-0) 5

POL 1510 Introduction To Comparative Politics: The student will compare and contrast decision-making in several Western and non-Western, industrial and less developed, democratic and authoritarian political systems. (5-0) 5

POL 1511 Introduction To International Relations: The student will identify and analyze patterns in relations among nations, and explain the effects on international relations of differing national perspectives, "power," international law, international organizations, the "balance of power" and the "balance of terror." (5-0) 5

POL 2500 State And Local Politics: The students will analyze political decision-making in the states and local areas, emphasizing in their analysis: changing relations between the federal government, states, and cities; the decline of southern sectionalism and big city political machines, the rise of suburban areas, citizen action groups, and new forms of metropolitan government. (5-0) 5

POL 2501 Political Ideologies: Students will explain the functions of political ideology, and describe the beliefs and practice of communism, socialism, fascism, capitalism, and democracy in the politics and socio-economic structure of various nations. (5-0) 5

POL 2104-2504 Special Topics In Political Science: The student will examine particular topics of political interaction and decision-making in areas not covered in standard courses. Topics' course objectives vary with the subject matter studied. (1 to 5 hrs. class/week) (1 to 5 hrs. credit). By consent of instructor and Department Head.

Graphic Arts

PRN 4311 Printing Sales: Upon completion of this course the student should be able to: (1) plan and prepare for a sales interview with a client; (2) describe proper procedures in dealing with a client and associates in the printing industry; (3) describe the system of selling by objectives; (4) describe the importance of physical fitness and proper grooming; (5) write effective business letters; (6) describe the proper use of audio-visuals in selling; (7) demonstrate a familiarity with the printing processes, printing supplies, trade customs and ethics; (8) describe proper procedures for credit collections. (3-0) 3

PRN 4337 Color Separation Techniques And Theory: Upon the completion of this course the student should be able to (1) describe basic color theory with regards to additive and subtractive color (2) produce a set of process color separations by a minimum of two methods, one set to be made with the use of silver masking (3) explain the procedure to color correct by wet and dry dot etching. PRN 5336 is recommended. (2-2) 3

PRN 5207 Cooperative Lab: Upon completion of this course the student should be able to: apply the skills learned in the graphic arts classroom and lab to actual working situations in the graphic arts industry. This course may be substituted for PRN 5704 Printing Applications II upon receiving permission from the Program Director and completing an application to take the course. (0-20) 2

PRN 5272 Printing Applications I—Part B: A continuation of PRN 5371. Prerequisite or Co-requisite: PRN 5371. (1-3) 2

PRN 5273 Printing Applications I—Part C: A continuation of PRN 5272. Prerequisite or Co-requisite: PRN 5272. (0-6) 2

PRN 5282 Printing Applications II—Part B: A continuation of PRN 5381. Prerequisite or Co-requisite: PRN 5281. (1-3) 2

PRN 5283 Printing Applications II—Part C: A continuation of PRN 5282. Prerequisite or Co-requisite: PRN 5282 (0-6) 2

PRN 5301 Printing Management: Upon completion of this course the student should be able to: (1) describe the structure of the management levels in a company; (2) discuss the importance of coordinating the elements of a job and keeping the customers informed as to the status of their job in the plant; (3) describe production control, proper purchasing of supplies, quality control and material handling. (3-0) 3

PRN 5303 Printing Estimating: Upon completion of this course the student should be able to: (1) compute paper and ink costs; (2) copyfit type for a job; (3) compute cost of producing a negative, plate, and bindery for a given job. Prerequisite: PRN 5315, PRN 5425, PRN 5435 or permission of Program Director. (3-0) 3

PRN 5310 Paper And Ink: Upon completion of this course the student should be able to: (1) distinguish the characteristics of the major classifications of paper and other substrates; (2) describe how paper and ink are manufactured and distributed; (3) describe and give solutions to paper and ink related problems on the press; (4) select paper and ink properly matched to the customers' specifications. (3-0) 3

PRN 5313 Typesetting I: Upon completion of this course the student should be able to: (1) describe the requirements of good composition; (2) trace the foundational developments of typesetting; (3) operate a modern phototypesetter and produce quality photo type; (4) perform maintenance operations on a modern phototypesetter; (5) produce quality photo-display type; (6) describe future trends in typesetting. (2-2) 3

PRN 5314 Process Camera I: Upon completion of this course the student should be able to: (1) describe the purpose and function of photomechanical photography and its equipment and materials; (2) set up and operate a functional darkroom shooting line and halftone copy; (3) use a densitometer, the PMT process and process photography filters. (2-2) 3

PRN 5315 Process Camera II: (A continuation of PRN 5314). Upon completion of this course the student should be able to: (1) shoot line and halftone copy of a more difficult nature; (2) do special effects photography including duotones, dropout halftones, set-ins and mezzotints; (3) properly screen color separations. Prerequisite: PRN 5314. (2-2) 3

PRN 5316 Production Screen Printing: Upon completion of this course the student should be able to: (1) use correctly all the basic materials of screen printing; (2) prepare hand-cut film stencils, photo direct and photo indirect stencils; (3) print on at least three different surfaces; (4) describe the differences in the technique and materials used in printing on different materials; (5) describe the different uses of screen printing; (6) describe the use of machines and automated equipment in industrial screen printing. Prerequisite: PRN 5314. (2-2) 3

PRN 5317 Typesetting II: At the completion of this course the student should be able to: (1) plan, markup and produce a job with a varied format; (2) copyfit and set copy to specifications; (3) proof read and make corrections. Prerequisite: PRN 5313. (2-0) 2

PRN 5364 Fundamentals Of Offset Printing: This course is designed to give Commercial Art students a basic understanding of offset lithography. At the completion of this course the student should have: (1) produced line and halftone negatives; (2) stripped combination flats; (3) made plates; and (4) printed a simple self-promotional folder. Prerequisite: VCO 4304, VCO 4305, VCO 4415. (1-4) 3

PRN 5365 Stripping I And Platemaking: Upon completion of this course the student should be able to: (1) describe and demonstrate various methods of image assembly; (2) strip line and halftone combinations; (3) make dylux and color key proofs; (4) strip multi-color work with two, three, and four overlapping screen tints; (5) step and repeat an image; (6) expose and process various types of offset plates. (2-2) 3

PRN 5369 Introduction To Graphic Arts: Upon completion of this course the student should be able to: (1) list and describe the major printing processes; (2) describe the phases a piece of printing goes through in the production process; (3) describe the duties performed by those employed at various stages of production, management and sales; (4) describe the graphic arts industry in the local area. (3-0) 3

PRN 5371 Printing Applications I—Part A: (A course for students unable to make the total time requirements for PRN 5700 in one quarter.) At the completion of this course PRN 5272 and PRN 5273 the student should have met all the requirements for PRN 5700. Prerequisite: Same as PRN 5700. (1-6) 3

PRN 5381 Printing Applications II—Part A: (A course for students unable to make the total time requirements for PRN 5704 in one quarter.) At the completion of this course, PRN 5282, and PRN 5283 the student should have met all the requirements for PRN 5704. Prerequisite: Same as PRN 5704. (1-6) 3

PRN 5390 Individual Study: This course is being offered to provide students with the opportunity to develop a special program of studies to fit a particular need not met by other courses during the second year of study. Enrollment would provide access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Approval of the sponsor and the Program Director is required along with an application to take the course. (3-0) 3

PRN 5401 Copy Preparation I: Upon completion of this course the student should be able to: (1) produce camera ready paste-up; (2) use the common tools and materials found in copy preparation; (3) produce simple, and complex mechanicals using key line art work and overlays; (4) describe the relationship of copy preparation with the rest of the printing process. (2-4) 4

PRN 5402 Basic Calculations For Printers: Upon completion of this course the student should be able to: (1) apply the principles of addition, subtraction, multiplication and division to problems indigenous to the graphic arts field; (2) use ratio and proportion to describe chemical mixtures in the lab; (3) understand scale measurement involving blueprints; (4) accurately read a ruler; (5) manipulate fractional and decimal numbers; (6) determine mathematically the most economical cut of paper stock; (7) perform area and volume calculations; (8) use simple algebraic equations to solve dimensional problems; (9) have a working knowledge of pica and point measurement; (10) discuss measurement using the metric system as well as the English system. (4-0) 4

PRN 5403 Copy Preparation II: A continuation of PRN 5401. Upon completion of this course the student should be able to complete paste-up mechanicals and camera ready art of a more difficult nature. (2-4) 4

PRN 5409 Color Reproduction: Upon the completion of this course the student should be able to: (1) explain color theory; (2) describe various methods used to make separations, identifying their strengths and weaknesses; (3) list and describe the major proofing methods used for process color; (4) produce a simple eye pleasing color separation. Prerequisite: PRN 5435, PRN 5415, and PRN 5425. (2-4) 4

PRN 5424 Offset Press I And Bindery: Upon completion of this course the student should be able to: (1) describe and perform procedures in press make-ready including determining correct measurements for packing, mounting of plates and blankets; (2) set the feeder, delivery, dampener rollers, ink, fountain solution, and pH; (3) operate duplicator to produce a satisfactory printed piece; (4) identify and describe the various types of bindery operations including book bindery, finishing operations in packaging, padding and other general bindery procedures. (2-4) 4

PRN 5425 Offset Press II: (A continuation of PRN 5424). Upon completion of this course the student should be able to: (1) operate a full size offset press; (2) identify and correct problems during press run; (3) control the register of color printing. Prerequisite: PRN 5424. (2-4) 4

PRN 5435 Offset Stripping II: (A continuation of PRN 5424). Upon completion of this course, the student should be able to: (1) set up flats for larger offset presses; (2) make composite negatives; (3) strip duotones and process color; (4) work with spreads and chokes; (5) identify various methods of stripping a printed piece to produce the desired finished product; (6) work with more involved and difficult stripping work. Prerequisite: PRN 5365. (2-4) 4

PRN 5700 Printing Applications I: Upon completion of this course, the student should have attained additional skills in the following areas: (1) layout and paste-up of mechanical art; (2) planning a detailed method of production; (3) shooting line, halftone and special effects copy; (4) stripping; (5) making plates; (6) operating press and bindery equipment. The student will produce commercial quality printed pieces. Prerequisite: PRN 5315, PRN 5401, PRN 5425, PRN 5435, PRN 5113, and the permission of the Program Director. (2-15) 7

PRN 5704 Printing Applications II: (A continuation of PRN 5700 Printing Applications I). Upon completion of this course, the student will have successfully completed tasks of a more complex nature in the following areas: (1) layout and paste-up of mechanical art; (2) planning a detailed method of production; (3) shooting line, halftone, and special effects copy; (4) stripping; (5) making plates; and (6) operating press and bindery equipment. The student should produce commercial quality printed pieces. Prerequisite: PRN 5700 and permission of the Program Director. (2-15) 7

Police Science

PSC 3303 Motor Vehicle Laws Of North Carolina: Upon completion of this course the student should be able to apply the provisions of North Carolina General Statute Chapter 20 toward its intended purpose: to protect the lives and property of persons using the streets and highways of North Carolina. (2-2) 3

PSC 3309 Boating Laws Of North Carolina: Upon completion of this course the student should be able to: (1) identify the classification of boats and the laws governing the operation of each; (2) operate a motorboat safely and within the boating laws and regulations; (3) recognize the most common boating hazards; (4) identify the inland waterway marking system; (5) correctly use the emergency equipment associated with boats. (1-4) 3

PSC 3500 Introduction To Criminology: Upon completion of this course the student should be able to: (1) identify and describe the major theories of crime causation; (2) identify and describe the major crime prevention programs; (3) identify and describe the major treatment programs; and (4) identify the major researchers in the field of criminology. (5-0) 5

PSC 3501 Introduction To Law Enforcement: Upon completion of this course the student should be able to: (1) identify at least 80 major concepts related to the history of law enforcement; (2) identify the purpose of at least 25 law enforcement agencies operating in North Carolina; (3) from a list of at least 18 specific crimes, identify the law enforcement agency with jurisdiction; (4) recognize at least 34 current practices of law enforcement agencies and/or personnel; and (5) identify the purpose of at least 10 federal law enforcement agencies. (5-0) 5

PSC 3504 Crime Scene Technology: Upon completion of this course the student should be able to: (1) protect life and property at a crime scene; (2) protect, preserve and photograph a crime scene; (3) search the crime scene for evidence; (4) locate, collect, and identify physical evidence; (5) maintain chain of custody in handling of physical evidence; (6) demonstrate proficiency in the use of specialized equipment in collecting, identifying and processing physical evidence. (4-2) 5

PSC 3510 Criminal Law: Upon completion of this course the student should have had a practical approach to the substantive law and should have a sound introduction to legal theory; have a basic knowledge of the common law; identify and define elements of crimes; understand how basic concepts function to determine the law; and be able to identify and define legally recognized defenses. (5-0) 5

PSC 3514 Police Organization And Administration: Upon completion of this course the student should be able to: (1) depict the organization of a police agency within the guidelines of sound organizational principles; (2) recognize effective administrative functions; (3) formulate a budget; and (4) write a staff study, emergency plan, standard operating procedure and a general order. (5-0) 5

PSC 4310 Self-Defense And Weaponry: Upon completion of this course the student should be able to: (1) demonstrate firing proficiency with the police service revolver, including prescribed safety procedures; (2) demonstrate self-defense procedures utilizing police methods; and, (3) demonstrate proficiency in the use of the baton and proper utilization of handcuffs. (1-4) 3

PSC 4501 Constitutional Law: Upon completion of this course the student should be able to identify, define and apply statutory rules and standards in the area of arrest, search and seizure; and possess an understanding of the landmark cases under the state and federal constitutions, particularly the Fourteenth Amendment. (5-0) 5

PSC 4503 Law Enforcement Psychology: Upon completion of this course the student should be able to: (1) identify the most common psychological demands, affects and effects of the law enforcement function on the officers and their families; (2) identify the most common procedures of selection, retention and promotion of police officers; (3) identify major methods of obtaining information; (4) identify the major methods employed in deception; (5) identify common principles of dealing with and controlling people; (6) identify the behavioral characteristics of abnormal people commonly encountered by police officers; and (7) know the remedial services that are available. (5-0) 5

PSC 4504 Criminal Procedure And Rules Of Evidence: Upon completion of this course the student should be able to: display and demonstrate workable knowledge and skill in criminal procedure and rules of evidence, and demonstrate a generally desired and accepted practice of courtroom decorum. Such would include North Carolina Code of Pretrial Criminal Procedure, Appellate Review, the role of the presiding judge, judicial notice, impeachment and corroboration, examination, competency and privilege in general, transactions with persons since deceased or insane, circumstantial evidence, character, real evidence, evidence illegally obtained, opinion, expert testimony, hearsay, admissions, confessions, burden of proof and presumptions. Prerequisite: PSC 3510 and PSC 4501 or Departmental consent. (5-0) 5

PSC 4505 Criminal Investigation: Upon completion of this course the student should be able to: (1) maintain an accurate notebook; (2) define the accepted procedures for interviews, interrogations, admissions, confessions and written statements; (3) define the accepted procedures for developing and maintaining informants; (4) identify sources of information; (5) define accepted procedures for undercover operations and surveillance; (6) define accepted procedures for the investigation of specific offenses; (7) define specific forensic procedures and applications; and (8) identify laws and case laws applicable to criminal investigation. (5-0) 5

PSC 4506 Advanced Crime Scene Technology: Upon completion of this course the student should be able to: (1) sketch a mock crime scene; (2) photograph a mock crime scene; (3) process a mock crime scene for latent fingerprints; (4) process a mock crime scene for biological fluids; (5) process a mock crime scene for ballistics evidence; (6) process a mock crime scene for trace evidence; (7) be 100% complete in gathering physical evidence in a mock crime scene; (8) process a mock crime scene for tool marks; (9) prepare the physical evidence for transport to a crime lab; (10) present in a mock trial, all evidence found at the mock crime scene; (11) withstand cross-examination in presenting evidence in mock trial. Prerequisite: PSC 3504 or Departmental consent. (4-2) 5

PSC 4510 Police Operations: Upon completion of this course the student should be able to: (1) define the purpose of police patrols; (2) define the types of patrol; (3) define the types of communications; (4) define the accepted procedures for: observation, perception, notetaking, report-writing, identification and description of persons and property, field interrogation, stopping of vehicles and control of occupants, use of personal protective weapons, techniques and tactics by type of call; (5) perform a stop and frisk; and (6) complete an affidavit and search warrant. (4-2) 5

PSC 4511 Administration Of Justice: Upon completion of this course the student should be able to: (1) construct a flow chart demonstrating the difference between the federal, state, and local systems of criminal justice; (2) be able to identify and differentiate between the functions and responsibilities of law enforcement, courts and corrections; (3) identify and define the philosophical basis for the existence of the various components of the criminal justice system; (4) construct and demonstrate the feasibility of felony alert and disaster plans coordinating the units of the system. (5-0) 5

PSC 4520 Public Relations: Upon completion of this course the student should be able to: (1) define the focus and overall purpose of public relations; (2) list 25 positive benefits of effective public relations for criminal justice agencies; (3) list 35 negative aspects of faulty public relations for criminal justice agencies; (4) define the power and influence of public opinion; (5) identify major problems in public relations as related to the criminal justice mission; (6) identify factors which foster effective and affective public relations; (7) identify examples of conserving favorable public opinion; and (8) identify common ways of sampling public opinion. (5-0) 5

Postal Service Management

PSM 3300 Postal Service History And Organization: Upon successful completion of the course the student should be able to trace the delivery of written communication and merchandise from earlier eras to the present; depict and compare the private, corporate, and governmental agencies which have been responsible for mail service; define the current postal organization as mandated by Public Law 91-375; trace and explain postal philosophies, policies, procedures, rules and regulations of the current organization; and demonstrate an understanding of the history and organization of the Postal Inspection Service. (3-0) 3

PSM 3401 Postal Service Labor Management: This course presents an overview of laws and practices as related to Labor-Management in the Postal Service. Upon successful completion of the course the student should be able to discuss the development of labor unions of Postal Service employees with emphasis on the National and Local Agreements, the various bargaining units and associations in the U.S. Postal Service, the grievance procedures, the disciplinary action procedures, and the National Labor Relations Board. (3-2) 4

PSM 3404 Mail Processing I: Upon successful completion of the course the student should be able to explain and interpret the mail classifications and rates, service standards, postal terminology, the four functions of mail processing, distribution systems, mail processing objectives and responsibilities, the mail preparation operation, manual distribution, revenue protection, and the bulk mail centers. (3-2) 4

PSM 3405 Mail Processing II: Upon successful completion of the course the student should be able to explain and interpret postal mechanization, machine distribution, human resources management in mail processing, reporting systems and data analysis, operational planning, scheduling and staffing, budgeting, and functional coordination with customer services. (3-2) 4

PSM 4401 Postal Service (Support) Finance: Upon successful completion of the course the student should be able to explain how postal revenue is received and controlled, procedures of the Board of Governors and the Postal Rate Commission, and the Postmaster General's Annual Report as well as budgeting, financial accounting and reporting, timekeeping, travel regulations, and Administrative Services. (3-2) 4

PSM 4420 Postal Employee Services: Upon successful completion of the course the student should be able to explain the functions of the Personnel Office in relation to the services it provides for postal employees including policies and practices concerning selection, placement, training, promotion of employees, self-development training programs, EEO practices; insurance and retirement benefits, awards programs, salary schedules, and safety and health. (3-2) 4

PSM 4421 Postal Customer Services: This course is designed to provide the student with an in-depth knowledge of all services provided for postal customers. Upon successful completion of the course the student should be able to explain effective customer relations, retailing postal products, and non-postal services including professional window service operations and the duties of customer service representatives. (3-2) 4

PSM 4430 Postal Delivery And Collection: This course is designed to provide a functional knowledge of mail delivery and collection systems within the Postal Service through the use of two management training programs, "Method Improvement Plan/Standard Operating Procedures" and "Route Inspections and Evaluations." Upon completion of the course the student should be able to state and explain the duties, responsibilities and skills required in the Carrier Crafts and the Management of Rural Delivery Service. (3-2) 4

PSM 4431 Postal Problem Analysis: This course presents actual postal problems for analysis and solution. Upon successful completion of the course the student should be able to utilize the systematic approach to problem solving: identify the problem; determine and analyze the dimensions of the problem; assess adverse consequences of the problem; determine and analyze alternative solutions; and specify and defend the best solution to the problem. (3-2) 4

Psychology

PSY 2500 Educational Psychology: Upon completion of this course the student will demonstrate a knowledge of learning, motivation, and development as they relate to classroom teaching. The student will also demonstrate a knowledge of testing, evaluation, and assessment. (5-0) 5

PSY 2504 General Psychology: An introductory course which may be taken in either a self-paced or conventional manner. Upon completion of this course the student will demonstrate a knowledge of the basic concepts of psychology, the use of these concepts as employed by the major theorists, and the practical and therapeutic application of these concepts. (5-0) 5

PSY 2505 Human Development: Upon completion of this course, the student will demonstrate a knowledge of the physical, psychological, social, and intellectual development of humans from conception to death. Prerequisite: PSY 2504. (5-0) 5

PSY 2514 Abnormal Psychology: Upon completion of this course the student will be able to identify the major forms of mental illness as described in the DSM III, the etiology of mental illness, and the preferred methods of treatment. Prerequisite: PSY 2504. (5-0) 5

PSY 2524 Mental Retardation: Upon completion of this course the student will demonstrate a knowledge of the biological, psychological, and sociological aspects of mental retardation. The student will also demonstrate knowledge of diagnosis, treatment, and education of the mentally retarded. Prerequisite: PSY 2504. (5-0) 5

PSY 2536 Special Problems In Psychology: A number of selected topics will be presented to the class for examination and evaluation. Each student will complete a research project in an area of special interest, upon approval by, and under the direction of the instructor. Prerequisite: PSY 2504 and permission of the Department Head. (5-0) 5

PSY 3314 Principles Of Humanistic Psychology: Upon completion of this course the student will demonstrate a knowledge of what constitutes a healthy personality from the major humanistic theorists. (3-0) 3

Physical Therapist Assistant

PTH 3404 Introduction To Physical Therapy: Upon successful completion of this course the student should be able to: (1) describe the development, preparation and roles of physical therapy personnel and services; (2) demonstrate awareness of physical therapy services appropriate to various clinical settings; (3) identify clinical conditions commonly treated by physical therapy services; (4) relate the variety and interrelationships of medical and paramedical disciplines in meeting patient needs; (5) demonstrate: a) basic aseptic techniques, b) safe transfer techniques using proper body mechanics, c) proper bed positioning of selected clinical conditions, and d) the ability to obtain the vital signs of temperature, pulse, respiration and blood pressure. Prerequisite: Acceptance into the Program. (3-3-0) 4

Course Descriptions

PTH 3524 Physical Therapy Procedures I: Upon successful completion of this course the student should be able to: (1) demonstrate orally and in writing a basic knowledge of: a) the different methods of heat transmission to the body, b) basic physics and terminology of low and high frequency currents utilized in physical therapy, c) the physical and physiological effects of heat, hot packs, low and high frequency currents, and d) the rationale of expected physical/physiological effects and indications/contraindications of the modalities being studied; (2) demonstrate acceptable competence in the skill development laboratory through: a) use of good body mechanics, b) performance of four therapeutic massage techniques, c) application of hot packs alone and combined with other modalities, and d) application of low and high frequency therapeutic currents. Prerequisite: PTH 3404, BIO 1504. (3-6-0) 5

PTH 3525 Physical Therapy Procedures II: During carefully planned and closely supervised clinical experiences the student will successfully complete this course by demonstrating acceptable competence in: (1) utilization of good body mechanics while performing safe patient transfer and treatment; (2) application of procedures learned to date to include: a) hotpacks alone or combined with other modalities, b) massage techniques, and c) low and high frequency therapeutic currents; (3) recognizing patient physiological/psychological responses to treatment as appropriate or inappropriate; and (4) expressing a basic understanding of: a) clinical departmental operational procedures, b) specific patient diagnoses being treated, and c) the interrelationships of health facility departments and personnel. Prerequisite: PTH 3524, PTH 3615. (3-0-6) 5

PTH 3615 Applied Anatomy: Successful completion of this course will be demonstrated by the student's ability to: (1) describe and demonstrate major joint actions; (2) identify the major muscles of these actions, their bony attachments and nerves; (3) offer comparisons of expected strengths of joint actions; (4) identify physiological components of the central and peripheral nervous systems; and (5) identify the major nerve plexuses as to spinal cord origins and muscular distributions. Prerequisite: BIO 1504, PTH 3404. (3-6-0) 6

PTH 3714 Therapeutic Exercise: Upon completion of this course the student should be able to: (1) identify the structural unit and recognize the physiological activities of muscle tissue; (2) relate neuromuscular function or dysfunction to a number of clinical conditions; (3) recognize the significance of joint range measurement and muscle strength evaluations for exercise programs; (4) utilize problem solving methods in determining appropriate exercise techniques or transfer and ambulation activities; (5) demonstrate the use of good body mechanics and proper patient safety measures in: a) a variety of exercise, transfer and ambulation activities, and b) the correct application and use of appliances and equipment for patient exercise, transfer and ambulation procedures. Prerequisite: PTH 3524, PTH 3615. (3-8-0) 7

PTH 4324 Psychology Of Adjustment: Successful completion of this course will be demonstrated by the student's ability to: (1) identify a variety of personality traits; (2) recognize the value of utilizing various coping mechanisms by both the sick and the well; (3) participate effectively in interpersonal relations as related to various stress situations; (4) demonstrate recognition of the need for behavioral adjustments by both the health worker and the patient; and (5) relate the experience of another in adjustment to a disability. Prerequisite: PTH 3525 or RTH 4814. (3-0-0) 3

PTH 4334 Community Health And Welfare: Upon completion of this course the student should be able to: (1) describe a community of interest for problem solving; (2) define and offer appropriate examples of three categories of service agencies; (3) list and explain four phases of health care; (4) offer valid examples of governmental influences on the health and welfare system; (5) identify at least five referral resources usually available to meet patient needs; and (6) describe in detail the organization of services provided by one community agency. Prerequisite: PTH 4627. (3-0-0) 3

PTH 4344 Seminar In Physical Therapy Procedures: Successful completion of this course will be demonstrated by the student's ability to: (1) locate and utilize appropriate reference material; (2) organize pertinent information in a logical, sequential manner for presentation; (3) present case studies, indicating the role of physical therapy; (4) prepare and present progress notes in a prescribed form; (5) identify both positive and negative learning experiences encountered in clinical assignments. Co-requisite: PTH 4604, PTH 4605. Prerequisite: PTH 4728. (3-0-0) 3

PTH 4390 Individual Study: Upon completion of this course the student should be able to: meet the objectives outlined by the student and instructor to meet particular student needs not provided in other courses of study. Prerequisite: Department Head Approval. (3-0-0) 3

PTH 4604 Clinical Education I: During systematically planned and supervised clinical learning experiences in a local health care facility, the student will successfully complete this course by competently demonstrating the ability to: (1) accept the personal responsibilities of promptness, personal neatness and learning of departmental procedures and practices; (2) develop and maintain positive rapport with patient and staff; (3) provide assigned patient treatments competently, ethically and with efficient use of time; (4) communicate effectively with others; (5) relate theory and principles to treatments performed; and (6) utilize available time for learning and self-improvement. Co-requisite: PTH 4605, PTH 4344. Prerequisite: PTH 4728. (0-0-18) 6

PTH 4605 Clinical Education II: A continuation of Clinical Education I, with identical objectives in a clinical department away from Charlotte selected by the student from available facilities affiliating with the Program. Co-requisite: PTH 4344, PTH 4604. Prerequisite: PTH 4728. (0-0-18) 6

PTH 4627 Physical Therapy Procedures III: In demonstration of successful completion of this course the student will: (1) identify and explain the physiological effects, indications and contraindications of the use of cold, paraffin and hydrotherapy procedures; (2) demonstrate acceptable application of these same treatment procedures; (3) perform carefully planned and supervised patient care utilizing cold, paraffin and hydrotherapy measures as well as demonstrating increased competence in performance of all previously learned skills; and (4) show evidence of effective interpersonal relations and ethical conduct in the patient care setting. Prerequisite: PTH 3525, PTH 3714. (3-0-9) 6

PTH 4728 Physical Therapy Procedures IV: Upon successful completion of this final procedures sequence course the student should be able to: (1) demonstrate a knowledge of radiant heat, its physical and physiological effect, indications/contraindications; (2) employ radiant heat measures of infrared and ultraviolet in an acceptable manner; (3) demonstrate knowledge of, and competence in applying, all modalities and procedures learned in the Program, and interrelate these measures with specific clinical conditions; (4) give evidence of acceptable knowledge about neuromuscular structures and function; (5) demonstrate effective patient and staff interpersonal relationships and, (6) when performing supervised patient assignments, coordinate all learning experiences to date for safe, appropriate and ethical patient care. Prerequisite: PTH 4627. (3-0-12) 7

Peer Tutoring

PTL 9000 Peer Tutoring Lab: Is designed to provide the opportunity for students to receive help from other students with tutoring in their course work plus additional instruction in study skills. The goal is to increase efficiency and effectiveness in academic endeavors of all persons involved. Tutoring is available in a majority of course areas. (0-3) 0

Piano Tuning Technology

PTR 5200 Piano Service Seminar: Seminar to take place at least once per month to be conducted by invited representatives of particular piano manufacturers. As many representatives as possible will be invited to present demonstrations regarding their particular brand of piano, its peculiarities and needs. (2-0) 2

PTR 5210 Piano Actions: Upon successful completion of this course the student should be able to identify various types of actions and demonstrate an understanding of the construction and function of hammers, dampers, flanges, keys, and felts. (0-6) 2

PTR 5211 Vertical Regulation: Upon successful completion of this course the student should be able to make minor repairs and regulation of all parts as they interact with one other (dampers, pedals, hammers, action and key depths). (1-3) 2

PTR 5212 Hammer Replacement: Upon successful completion of this course the student should be able to voice, reshape, adjust, or replace hammers. (1-3) 2

PTR 5213 Grand Regulation: Upon successful completion of this course the student should be able to make precise adjustments and minor repairs of Grand Piano Actions including repetition, sostenuto and damper systems, bedding of the key frame and leveling of the keys. (1-3) 2

PTR 5214 Restringing: Upon successful completion of this course the student should be able to replace, restore, and clean strings. (1-3) 2

PTR 5300 Piano Technology — The Instrument And Tools: Upon successful completion of this course the student should be able: 1. to identify the different types of pianos, the parts of the piano and their functions; (2) identify tools and their correct usage; (3) to use correct terminology; (4) to discuss the history and development of the piano and its predecessors the harpsichord and clavichord. (3-0) 3

PTR 5330 Tuning Practicum (Piano): Supervised Field Training. (0-9) 3

PTR 5607 Fundamentals Of Tuning I: Upon successful completion of this course the student should be able to demonstrate the correct use of the tuning hammer, and an understanding of the principles of pitch. (2-12) 6

PTR 5608 Fundamentals Of Tuning II: Upon successful completion of this course the student should be able to demonstrate basic ear tuning including unisons and octaves and be acquainted with equal temperament procedures (thirds and sixths, fourths and fifths). (2-12) 6

PTR 5609 Intermediate Tuning: Upon successful completion of this course the student should be able to demonstrate a working knowledge of the processes of tuning, i.e. alternative aural temperaments and introduction to progression of intervals, and electronic tuning aids. (2-12) 6

PTR 5610 Advanced Tuning: Upon successful completion of this course the student should be able to set tuning pins, raise pitch, demonstrate a working knowledge of interval tests, and tune for general and specialized use. (2-12) 6

Reading

RDN 9302 Advanced Vocabulary Improvement: This course is designed for adults who need non-specialized, college-level vocabulary improvement to enhance communication skills and raise scores on standardized vocabulary tests. Upon completion the student will demonstrate mastery of: 1) common Latin prefixes and roots, 2) synonym shading, 3) word analogies, 4) connotation-denotation. (3-0) 3

RDN 9312 Speed Reading: An individualized, self-paced course designed to meet the needs of students, lay and professional members of the community who want to increase speed in reading. Upon successful completion of this course, the learner will demonstrate a 100% increase in reading rate while maintaining an 80 percent level of comprehension as assessed by a standardized reading test. (3-0) 3

RDN 9505 Reading Skills: This individualized course in reading is designed for the adult who needs fundamental skill development to understand and learn from written material. Upon completion the student will demonstrate mastery of basic vocabulary, comprehension, and study skills. (5-0) 5

RDN 9510 Reading Improvement: At completion of this individualized course the learner will demonstrate abilities: (1) to choose and implement a system for long-range vocabulary development; (2) to find main ideas in given passages, to draw inferences from those ideas, and to evaluate conflicting ideas to discover bias; (3) to study-read a college textbook. (5-0) 5

Real Estate

RES 3360 Real Estate Property Management: This course examines the professional management of apartment, retail and commercial office properties for client owners in order to achieve their investment objectives. Upon satisfactory completion of the course the student should be able to describe and explain: (1) the role, responsibilities and functions of the property manager; (2) the formation of management agreements; (3) the development of management plans; (4) the computation of rent escalation by various methods; (5) the negotiation and preparation of lease contracts; (6) the preparation of cash flow projections and operating budgets. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 3364 Residential Real Estate Appraisal I: This course and RES 3365 provide the student a foundation for the valuation of residential property. Upon satisfactory completion of the course, the student should be able to: (1) state the nature and purpose of appraisals; (2) distinguish between realty and real property; (3) define the major kinds of value; (4) explain and give practical examples of the important economic principles affecting real estate value; (5) describe the appraisal process; (6) state sources of appraisal data and information; (7) outline a narrative appraisal report; (8) explain how to make neighborhood and site analyses and site valuations. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 3365 Residential Real Estate Appraisal II: Upon successful completion of this course the student should be able to: (1) identify major residential styles; (2) identify the major structural components of houses; (3) recognize functional inutilities; (4) estimate reproduction costs of houses; (5) estimate accrued depreciation; (6) estimate market value of single family residences by the market data, reproduction cost and gross-rent-multiplier approaches; (7) reconcile value indications; (8) prepare a form appraisal report. Prerequisite: RES 3364. (3-0) 3

RES 3660 Real Estate Salesman Prelicensing: Satisfactory completion of this course prepares the student to enter the business of real estate sales after passing the state licensing examination. Upon satisfactory completion of the course, the student should be able to demonstrate knowledge and understanding of fundamental principles and practices in the following subject areas by correctly answering questions concerning legal, technical and practical aspects, and by solving situational and mathematical problems based thereon: (1) introduction to the real estate business; (2) property ownership and interests; (3) land use controls; (4) transfer of title to real property; (5) real estate contracts (incl. leases); (6) law of agency; (7) N.C. Real Estate License Law, N.C. Rl. Est. Licensing Board Rules & Regulations; (8) property management; (9) real estate financing; (10) fair housing law; (11) property valuation; (12) tax implications of home ownership; (13) closing real estate transactions; (14) residential building construction. (6-0) 6

Course Descriptions

RES 3664 Real Estate Broker Prelicensing I: Satisfactory completion of this course, and then RES 3665, prepares the student to enter the business of real estate broker after passing the state licensing examination. In order to complete this course satisfactorily the student should be able to demonstrate knowledge and understanding of fundamental principles and practices in the following subject areas by correctly answering questions concerning legal, technical and practical aspects, and by solving situational and mathematical problems based thereon: (1) introduction to the real estate business; (2) property ownership and interests; (3) land use controls; (4) transfer of title to real property; (5) real estate contracts (incl. leases); (6) law of agency; (7) N.C. Real Estate License Law, N.C. Rl. Est. Licensing Board Rules & Regulations. (6-0) 6

RES 3665 Real Estate Broker Prelicensing II: Satisfactory completion of this course, after RES 3664, prepares the student to enter the business of real estate broker after passing the state licensing examination. In order to complete this course satisfactorily, the student should be able to demonstrate knowledge and understanding of fundamental principles and practices in the following subject area by correctly answering questions concerning legal, technical and practical aspects, and by solving situational and mathematical problems based thereon: (1) landlord-tenant relationships and property management; (2) real estate financing; (3) fair housing law and other consumer-protecting legislation; (4) property valuation; (5) tax implications of home ownership; (6) closing real estate transactions; (7) real estate investment; (8) property insurance; (9) residential building construction. Prerequisite: RES 3664. (6-0) 6

RES 4364 Land Use Planning And Zoning: This course surveys governmental police powers of increasing scope and complexity, important to owners and users of land. Upon satisfactory completion of the course the student should be able to: (1) demonstrate understanding of the organization and functioning of local planning commissions, zoning departments and other governmental agencies involved in regulation and control of land use; (2) discuss and explain the bases for, objectives of and enactment of and the implementation of long-range land-use plans, zoning ordinances and other legislation which imposes public restrictions on the development and use of land; (3) state how zoning regulations may be amended, and how variances and special use permits may be obtained; (4) apply zoning regulations to specific fact situations and formulate land development proposals based thereon. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4365 Real Estate Marketing: This course is designed to help the brokerage student prepare to achieve high listing and sale productivity. Upon satisfactory completion of the course the student should be able to: (1) outline the broker's responsibilities to sellers, to buyers and to others involved in sale/purchase transactions; (2) set realistic personal productivity goals; (3) establish a personal time-management system; (4) develop a sales plan; (5) describe techniques for obtaining listings and servicing them; (6) state guidelines for advertising, and prepare copy for classified advertisements; (7) list methods for obtaining prospective buyers; (8) conduct an interview to qualify a buyer by asking questions and to convert buyer objections into sales advantages; (9) discuss and explain techniques for showing properties, obtaining purchase offers and closing sellers; (10) state procedures for building a personal referral service. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4366 Financing Home Purchases: This course is designed to help the brokerage student deal with increasingly important and complicated purchase financing in negotiating the listing and sale of existing single-family residences. Upon satisfactory completion of the course the student should be able to: (1) demonstrate a working understanding of the principal features, terms and conditions of currently-available purchase-money mortgage loans and the sources from which they are available; (2) describe the use of seller financing; (3) describe the impact of the secondary mortgage market on the kinds of purchase-money loans available and on their terms and conditions; (4) list and estimate the costs of obtaining purchase financing; (5) discuss and explain loan assumptions, including calculations of balances; (6) estimate settlement costs for sellers and for purchasers, monthly loan payments and payments to escrow; (7) prepare financing summaries to help guide sellers and buyers; (8) describe how to prequalify prospective buyers; (9) explain how to assist buyers in obtaining purchase financing; (10) discuss what the broker should do toward assuring effective and efficient loan application, loan approval and closing. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4367 Income Real Estate Appraisal I: This course and RES 4368 familiarize the student with the income approach to estimating market value. Upon successful completion of the course the student should be able, given appropriate data, to do the following: (1) estimate gross income to a property and operating expenses, and prepare a reconstructed operating statement; (2) explain and estimate applicable interest rates, recapture rates and capitalization rates; (3) calculate and use compound interest functions in appraisal problem-solving; (4) extract rates from market data for comparable properties; (5) calculate estimates of market value by four major 100%-equity methods and by the gross-income-multiplier method. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4368 Income Real Estate Appraisal II: Upon satisfactory completion of this course the student should be able to use mortgage-equity methods to capitalize projected net income streams and reversions to properties into estimates of market value. These methods include the Ellwood method, take into account the effects of availability and terms of available purchase financing on value, and deal with both level and irregular income streams. The calculations require that the student compute and use compound interest functions and mortgage coefficients involving them in order to solve appraisal problems. Prerequisite: RES 4367 or consent of Division Head. (3-0) 3

RES 4374 Real Estate Investment: This course is designed to help the real estate brokerage student acquire knowledge and skill in marketing investment real estate. Upon satisfactory completion of the course the student should be able to do the following in connection with a particular investment property: (1) specify the data and information which are needed for carrying out an investment analysis; (2) estimate projected gross income to, operating expenses for, and net income to the property; (3) estimate effects of financing to obtain before-tax cash flow; (4) estimate effects of ordinary income tax to obtain after-tax cash flow; (5) estimate proceeds of resale after capital gains tax; (6) calculate both internal and financial management rates of return on investment; (7) prepare an appropriate report of the findings of the investment analysis. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4375 Industrial Real Estate: This course is designed to help the student practitioner gain knowledge and skill in the basics of selling, leasing and managing commercial and industrial properties. Upon satisfactory completion of the course the student should be able to: (1) discuss the importance of unique characteristics of industrial and commercial real estate; (2) describe how to analyze space requirements; (3) specify site selection criteria; (4) show a working understanding of property development, zoning considerations and appraising; (5) compare financing alternatives; (6) compare purchasing to leasing; (7) negotiate sales and leases; (8) be familiar with brokerage office operations. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

RES 4376 Real Estate Law: This course is designed to enhance the student's understanding of important current requirements imposed by statutory, administrative and common law on the practice of real estate brokerage. It emphasizes broker performance responsibilities from initiation of sale and lease transactions through final settlement. Upon satisfactory completion of the course the student should be able to: (1) describe the relationships and responsibilities of the broker to clients, customers, sales associates and other practitioners involved such as brokers, lenders, appraisers, surveyors, inspectors, insurers and attorney; (2) discuss criteria for proper broker performance of each major step in typical sale and lease transactions; (3) prepare demonstration samples of listing contracts, contracts of sale, purchase option contracts and leases; (4) critique sample lender-prepared RESPA and TIL disclosure statements; (5) discuss the mechanics of closing procedures and documents required for them; (6) propose solutions to sample practical situational problems; (7) participate in analytical case studies. Prerequisite: RES 3660, RES 3665, real estate license or consent of Division Head. (3-0) 3

Respiratory Therapy

RTH 3304 Pathology And Physical Diagnosis: Upon completion of this course the student should be able to: (1) recognize abnormalities of the head, neck, and thorax gathered from inspection; (2) use a stethoscope; (3) by auscultation, identify normal and abnormal breath sounds and make clinical correlations; (4) explain the pathology of chronic obstructive pulmonary diseases; (5) list the various types of pulmonary carcinomas; (6) discuss the physiologic alterations of the lung caused by extra-pulmonary sources; (7) explain and list conditions of the nervous system which could lead to respiratory failure. (2-2-0) 3

RTH 3305 Respiratory Pharmacology: Upon completion of this course the student should be able to: (1) use current reference standards; (2) read and interpret a prescription; (3) compute dosages, determine ratios and percents, and prepare solutions for aerosol administration; (4) describe the pharmacology of airway dilators; (5) describe the pharmacology of mucokinetic substances, their preparation, and method of administration; (6) list and describe antibiotics used in the treatment of pulmonary infections; (7) explain the pharmacologic effects of drugs commonly seen in overdose situations; (8) explain the mechanism of action and list commonly used muscle relaxants; (9) explain the mechanism of action and list commonly used drugs affecting central respiratory centers including commonly encountered drugs producing sedation, hypnosis, anesthesia, and stimulants; (10) describe the use of oxygen as a drug, its mechanism of transport, indications, effects on vital functions, cellular and biochemical effects of oxygen toxicity and prevention of oxygen toxicity; (11) diagram or otherwise discuss normal renal function and explain the mechanism of action of commonly used diuretics. (3-0-0) 3

RTH 3714 Respiratory Therapy Procedures I: Upon completion of this course the student should be able to: (1) identify clinical situations requiring and properly apply humidity and aerosol devices with associated oxygen delivering capabilities; (2) describe normal mucus clearing mechanisms; (3) discuss normal humidification by airway; (4) assemble and compare nebulizers and humidifiers and discuss their function; (5) describe hazards associated with humidity and aerosol therapy; (6) assemble, disassemble and calibrate selected positive pressure breathing devices; (7) summarize and discuss indications of IPPB; (8) discuss hazards of IPPB; (9) implement and describe methods of monitoring IPPB therapy; (10) discuss types of and correct procedure for administering incentive breathing devices; (11) list indications and contraindications of bronchopulmonary drainage, chest percussion, and chest vibration; (12) correctly perform the basic steps of physical examination to include reviewing and gathering data from patient record, inspection, and palpation and auscultation. Prerequisite: RTH 3807. (3-2-9) 7

RTH 3805 Respiratory Therapy Procedures II: Upon completion of this course the student should be able to: (1) read and interpret results from arterial blood gas analysis; (2) monitor correctly parameters of ventilation; (3) recognize and use artificial airways; (4) manage the airways of patients requiring artificial airways; (5) complete a comparative assessment of manual resuscitators; (6) obtain a basic expiogram; (7) become certified by the AHA in basic life support. Prerequisite: RTH 3714. (3-4-9) 8

RTH 3807 Introduction To Respiratory Therapy: Upon completion of this course the student should be able to: (1) recognize the major developments in medicine and science as they relate to the historical aspects of respiratory therapy; (2) list and describe the professional and accrediting organizations; (3) explain the roles and responsibilities of the various respiratory therapy practitioners; (4) use the English and Metric systems of measurement interchangeably; (5) define and use medical terms; (6) read a patient chart; (7) correct gases for changes in volume, pressure and temperature; (8) assemble, operate and supply equipment used to administer medical gas therapy; (9) describe the functions and interdependence of the cardiovascular and respiratory systems. Prerequisite: Admission to Respiratory Therapy Program. (4-4-6) 8

RTH 4204 Introduction To Pulmonary Functions: Upon completion of this course, the student should be able to: (1) draw and label a normal expiogram; (2) use water and electronic spirometers to obtain expiograms; (3) define the following volumes: tidal, inspiratory reserve, expiratory reserve, and residual; (4) define the following capacities: inspiratory, functional residual, vital and total lung; (5) state the significance of variations from normal of those volumes and capacities; (6) determine the normal values for given patients utilizing nomograms and formulae; (7) explain the usefulness of timed expiratory maneuvers; (8) interpret various expiographic tracings as to restrictive and obstructive lung disease. Prerequisite: RTH 3805 or consent. (2-0-0) 2

RTH 4504 Pulmonary Function I: Upon completion of this course the student should be able to: (1) determine functional residual capacity measurements; (2) calculate a cardiac output using the Fick equation and compare with results from other methods; (3) measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; (4) set up and maintain intravascular pressure monitoring systems; (5) calibrate, analyze and change the membranes on selected blood gas analyzers; (6) use a co-oximeter; (7) use a flame photometer; (8) perform and interpret diffusion testing; (9) describe and interpret tests of small airway function. Prerequisite: RTH 4204, Co-requisite: RTH 4605. (2-0-9) 5

RTH 4605 Pulmonary Function II: Upon completion of this course the student should be able to: (1) determine functional residual capacity measurements; (2) calculate a cardiac output using the Fick equation and compare with results from other methods; (3) measure the volume of dead space and tidal volume, establish a ratio, and state significance of same; (4) set up and maintain intravascular pressure monitoring systems; (5) calibrate, analyze and change the membranes on selected blood gas analyzers; (6) use a co-oximeter; (7) use a flame photometer; (8) perform and interpret diffusion testing; (9) describe and interpret tests of small airway function. Prerequisite: RTH 4204, Co-requisite: RTH 4504. (2-2-9) 6

RTH 4606 Clinical Application I: Upon completion of this course the student should be able to: (1) provide respiratory care to patients in an intensive critical care unit; (2) participate in emergency situations while maintaining an airway and breathing for the patient; (3) provide intensive respiratory care to the infant and pediatric patient; (4) discuss the role of supervisory personnel; (5) write procedures for the various applications of respiratory care; (6) organize and provide instruction in respiratory care to medical personnel; (7) participate in a program of cardiorespiratory rehabilitation; (8) become certified by the AHA as an instructor in BLS. Prerequisite: RTH 4605; Co-requisite: RTH 4607 (2-0-12) 6

RTH 4607 Clinical Application II: Upon completion of this course the student should be able to: (1) provide respiratory care to patients in an intensive critical care unit; (2) participate in emergency situations while maintaining an airway and breathing for the patient; (3) provide intensive respiratory care to the infant and pediatric patient; (4) discuss the role of supervisory personnel; (5) write procedures for the various applications of respiratory care; (6) organize and provide instruction in respiratory care to medical personnel; (7) participate in a program of cardiorespiratory rehabilitation; (8) become certified by the AHA as an instructor in BLS. Prerequisite: RTH 4605; Co-requisite: RTH 4604. (2-0-12) 6

RTH 4715 Equipment For Continuous Ventilation: Upon completion of this course the student should be able to: (1) classify selected ventilators; (2) discuss compliance and how it relates to ventilator performance; (3) list and describe the cycling mechanism and mode of operation of selected ventilators; (4) trace gas flows from power source to patient in selected ventilators; (5) identify common malfunctions and proper corrective measures in selected ventilators; (6) identify parts of selected ventilators which can be sterilized and list the best method of sterilization for that particular part; (7) list testing procedure for selected ventilators prior to patient use. Prerequisite: RTH 4814 and PHY 3414. Co-requisite: RTH 4724. (1-4-12) 7

RTH 4724 Continuous Ventilation: Upon completion of this course the student should be able to: (1) list indications for using mechanical ventilation; (2) given flow and pressure patterns, identify the type ventilator exemplified; (3) list clinical situations requiring the use of volume controlled ventilators; (4) explain the indications and procedures for weaning patients from ventilators; (5) explain the indications and procedures for establishing intermittent mandatory ventilation, positive end expiratory pressure, expiratory resistance and inspiratory plateau; (6) interpret arterial blood gas analysis and make appropriate ventilator changes to correct adverse results. Prerequisite: RTH 4814, Co-requisite: RTH 4715. (3-0-12) 7

RTH 4814 Introduction To Emergency And Intensive Respiratory Care: Upon completion of this course the student should be able to: (1) modify and use oxygen and aerosol administration devices to deal with specific adverse situations; (2) modify and use selected IPPB devices to deal with specific adverse situations; (3) modify patient positions for bronchopulmonary drainage to accommodate specific patient conditions; (4) perform endotracheal intubation on an adult and infant model; (5) administer oxygen and aerosol therapy to infants; (6) obtain and analyze an arterial blood sample; (7) demonstrate ability to maintain and monitor established airways. Prerequisite: RTH 3805. (2-4-12) 8

Secretarial Science

SEC 3101 Shorthand Review A: The student will review some principles of Gregg shorthand, some brief forms, and phrases. The student will also be given some practice in reading, writing, and elementary transcription of shorthand. (0-2) 1

SEC 3104 Shorthand Review B: A continuation of SEC 3101 — Shorthand Review A. The student will complete the review of all principles of Gregg shorthand, brief forms, and phrases with greater emphasis on dictation and transcription. Prerequisite: SEC 3101. (0-2) 1

SEC 3200 Shorthand Review: This course is designed to review and reinforce Gregg's shorthand theory including brief forms and phrases. Emphasis will be placed on dictation at varying speeds, as well as review of the fundamentals of English grammar. Prerequisite: Successful completion of one year of high school shorthand or two quarters (one semester) of college shorthand. (0-4) 2

SEC 3201 Typing - Skill Building: This course is designed to provide an intensive review of the keyboard, typing techniques, posture, simple business letters, manuscripts (reports), and tabulation (columnar) through a series of typing exercises and production applications. Prerequisite: Successful completion of one year of secondary level typing or 2 quarters (one semester) of postsecondary level typing. (1-2) 2

SEC 3301 Legal Terminology And Vocabulary: The student will receive an intensive course of study in legal terminology and vocabulary including definitions, usage, derivations and spelling. (3-0) 3

SEC 3304 Office Machines: The student will learn techniques, processes, and operations of ten keyboard printing and display calculators and applications of the above to business type problems. Prerequisite: FIN 3314. (2-2) 3

SEC 3320 Personal Projection: The student will learn to recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis will be placed on grooming and methods of personality improvements. (3-0) 3

SEC 3404 Typing I: The student will learn to type with emphasis on correct technique, mastery of the keyboard, simple business correspondence, and tabulation. Speed requirement: 25 words per minute for 5 minutes. Proficiency test may be taken for this course. (3-2) 4

SEC 3405 Typing II: The student will develop further mastery of correct typewriting techniques to be applied in tabulations, manuscripts, correspondence and business forms. Individualized and self-instructional methods are employed. Speed requirement: 45 words per minute for 5 minutes. Prerequisite: SEC 3405 or equivalent. (3-2) 4

SEC 3406 Typing III: The student will begin to function as an expert typist producing mailable copies. The production units will involve tabulations, manuscripts, correspondence and business forms. Individualized and self-instructional methods are employed. Speed requirement: 45 words per minute for 5 minutes. Prerequisite: SEC 3405 or equivalent. (3-2) 4

SEC 3414 Shorthand I: The student will learn Gregg shorthand theory and will practice reading and writing shorthand. The emphasis will be on phonetics, penmanship, word families, brief forms and phrases. Proficiency test may be taken for this course. (3-2) 4

SEC 3425 Shorthand II: The student will continue to study and review Gregg Shorthand theory with greater emphasis on dictation and elementary transcription. Upon successful completion of this course, the student should be able to take a minimum dictation rate on new material of 60 words a minute for 3 minutes. Prerequisite: SEC 3414, COM 1304 or the equivalent. Proficiency test may be taken for this course. (3-2) 4

SEC 3416 Shorthand II: The student will continue to review Gregg Shorthand theory and to build speed. Emphasis will be on development of speed in dictation and accuracy in transcription. Upon successful completion of this course the student should be able to take a minimum dictation rate on new material of 80 words a minute for 3 minutes, and will be introduced to mailable letters at 70 words a minute. Prerequisite: SEC 3415 or equivalent, and COM 3515. Proficiency test may be taken for this course. (3-2) 4

SEC 3424 Medical Transcription I: The student will complete production units on the typewriter from dictation-transcription machines of medical correspondence and documents such as case histories, articles, and hospital reports. Prerequisite: SEC 3406. (2-4) 4

SEC 3425 Medical Transcription II: A continuation of SEC 3424. Emphasis will be placed on the development of individual production rates. The student will learn the techniques needed in planning and typing projects that relate closely to hospital reports and case histories. Prerequisite: SEC 3424 (2-2) 3

SEC 4305 Business Communications: The student will review grammar and punctuation skills and develop effective techniques for handling the special requirements of business letters and other forms of business communications. Prerequisite: COM 1304 and COM 3515. (3-0) 3

SEC 4310 Vocabulary Building: The student should develop proficiency in spelling, word usage, business terminology, and intelligent use of the dictionary. (3-0) 3

SEC 4370 Records Management: The student will learn the fundamentals of indexing and filing. Theory and practice will be combined by the use of miniature letters, filing boxes and guides. Topics studied will include alphabetic name, geographic, subject and numerical filing. (3-0) 3

SEC 4406 Medical Shorthand: The student will learn to construct medical shorthand outlines, take dictation using medical terminology and will develop the ability to transcribe such dictation. Prerequisite: SEC 3416. (3-2) 4

SEC 4407 Typing IV: The student will continue to increase speed and accuracy on straight copy and production typing. The primary purpose of this course will be to review the fundamental principles of typewriting as they apply to production work with special emphasis on unarranged and uncorrected material. Speed requirement: 55 words a minute for 5 minutes. Prerequisite: SEC 3406. (3-2) 4

SEC 4417 Dictation And Transcription I: The student will develop the skills of taking dictation and transcribing materials appropriate to a business office. Topics will include a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Upon successful completion of this course the student should be able to take dictation at 90 words a minute for 3 minutes on new material. Much emphasis will be placed on transcribing shorter letters in mailable form. Prerequisite: SEC 3416 or equivalent. (3-2) 4

SEC 4418 Dictation And Transcription II: The student will develop the accuracy, speed, and vocabulary to meet the stenographic requirements of business offices. Upon successful completion of the course the student should be able to take dictation on new materials at 100 words a minute for 3 minutes. Much emphasis will be placed on transcribing shorter letters in mailable form. Prerequisite: SEC 4417 (3-2) 4

SEC 4426 Word Processing And Machine Transcription: The student will transcribe various kinds of communication at the typewriter into mailable form. The student should understand the concepts of word processing and will be able to operate an editing typewriter. Prerequisite: SEC 3406 and COM 3515. (3-2) 4

SEC 4448 Legal Dictation And Transcription: The student will develop the ability to take in shorthand and then transcribe rapidly and accurately legal documents, instruments, and correspondence. Shorthand shortcuts for the legal vocabulary will be presented, and law office procedures will be emphasized. Upon successful completion of this course the student should be able to take dictation at a minimum rate of 100 words a minute for 3 minutes and transcribe with 95 percent accuracy. Prerequisite: SEC 4417; Prerequisite or Co-requisite: SEC 3301. (3-2) 4

SEC 4617 General Office Procedures: The student will learn to handle secretarial responsibilities. Through simulation, the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, travel planning, reprographics, financial records, purchasing supplies, and office organization. Particular emphasis will be placed on professional typing problems. Prerequisite: SEC 4305, SEC 4370, and SEC 4407; Speed requirement 60 wpm. (5-2) 6

SEC 4628 Medical Office Procedures: The student will learn to handle medical responsibilities. Through simulation the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, financial records, and office organization. In addition, particular emphasis will be placed on advanced medical typing procedures which includes typing various medical reports, forms, and completing insurance claims. Prerequisite: SEC 4305, SEC 4370, and SEC 4407; Speed requirement 60 wpm. (5-2) 6

SEC 4639 Legal Office Procedures: The student will learn to handle legal responsibilities. Through simulation, the student will actually perform typical office tasks. The work will involve the following: receptionist duties, handling the mail, telephone techniques, financial records, and office organization. Particular emphasis will be placed on advanced typing procedures. In addition, the student will gain an understanding of various facets of the law, when and how to use legal documents, important legal procedures, and law office routines. Prerequisite: SEC 4305, SEC 4370, SEC 4407, and SEC 3301; Speed requirement 60 wpm. (5-2) 6

Sociology

SOC 1301 Group Interaction: A course designed to enhance the student's understanding of group process and dynamics. Upon completion the student will demonstrate a knowledge of the skills essential for analysis of forces at work in groups and for working effectively in a group context. (3-0) 3

SOC 1500 Sociology Of The Family: A course designed to help the student develop an understanding of contemporary American family patterns when examined from a cross-cultural perspective. Upon completion of this course the student will demonstrate a knowledge of the family as a social institution and the social forces which have influenced its development. (5-0) 5

SOC 2501 People And Their Environments: An interdisciplinary course designed to promote an understanding of the basic principles governing ecological systems, and the interaction of historical, social, economic, biological, and physical forces which sustain the totality of life. Emphasis will be placed on developing an awareness of the place of people within these systems. Examination of environmental concerns, both local and worldwide, will promote an understanding of the environmental impact of individual and group socio-cultural activities and will develop skills in making rational decisions concerning the environment. (5-0) 5

SOC 2514 Introduction To Sociology: An introductory course which may be taken in either a self-paced or conventional manner. Upon completion the student will demonstrate a knowledge of the basic concepts of sociology, their application to contemporary group life, and the skills essential for objective analysis of one's social and cultural heritage. (5-0) 5

SOC 2515 Social Problems: A course which may be taken in either a self-paced or conventional manner. Upon completion the student will demonstrate an understanding of some of the major social problems confronting contemporary American society, as well as the theories which account for the underlying conditions and human behaviors which result in these conditions. Proposals for reform will be examined. Prerequisite: SOC 2514 or consent of Department Head. (5-0) 5

SOC 2524 Special Problems Of Sociology: A course for advanced students who have been approved by the Department Head. The student will consult with a departmental instructor and select a sociological topic of study. The study may involve library research as well as actual observation and the collection of data. Where several students have selected the same or similar topics concerned with a timely or important sociological subject, a seminar or class may be arranged. Prerequisite: consent of Department Head. (5-0) 5

SOC 4300 Social And Minority Issues: The student will demonstrate an increased awareness and appreciation of minorities and other intergroup relations, including ethnic and sex-role differences in contemporary American society. Through classroom participation in discussions, role playing, simulation games, and testing, the student will show evidence of having developed a greater understanding of the basic sociological concepts which characterize intergroup relations, including a greater appreciation of intergroup differences. (3-0) 3

Spanish

SPA 1300 Travel Spanish: Oral approach to comprehending and communicating in Spanish. Upon successful completion of SPA 1300 the student should be able to use basic communication in terminals, shops, restaurants, hotels, and other places. Tapes, filmstrips, movies, and extensive conversation in classroom. (Elective credit only.) (Does not satisfy humanities requirement.) (3-1) 3

SPA 1600 Elementary Spanish I: Upon completion of this course the student will have a knowledge of some basic elements of Spanish in conversation, reading, and writing for beginning students. Filmstrips and tapes used in classroom and laboratory instruction. (Does not satisfy humanities requirement.) (5-2) 6

SPA 1601 Elementary Spanish II: Continuation of SPA 1600 in basic elements of conversation, reading, and writing. Tapes, filmstrips, movies, and extensive conversation in classroom. Prerequisite: SPA 1600 or Departmental consent. (Does not satisfy humanities requirement.) (5-2) 6

SPA 2320 Special Topics: An advanced course in which the students and the instructor select topics for independent study. Class meetings for oral reports and discussion. Prerequisite: SPA 2600 or consent of Department Head. (3-0) 3

SPA 2600 Intermediate Spanish I: Upon completion of this course the student will have had an intensive review of basic grammar and vocabulary combined with study of idiomatic forms and grammatical structures in selected readings. Prerequisite: SPA 1601 or two high school units or Departmental consent. (5-2) 6

SPA 2601 Intermediate Spanish II: Upon completion of this course the student will have completed a review of grammar along with readings in Spanish with emphasis on people and events. Prerequisite: SPA 2600 or Departmental consent. (SPA 2600 and 2601 combined will satisfy humanities requirement.) (5-2) 6

Speech

SPH 1300 Oral Communications: Upon successful completion of SPH 1300 the student should be able to demonstrate the basic communication skills of informative speaking before an audience using the fundamental techniques of preparation, organization and delivery as well as participate in group discussions. Further, the student should demonstrate appropriate listening behavior. (3-0) 3

SPH 1301 Persuasive Speaking: Upon successful completion of SPH 1301 the student should be able to show through the use of analysis, evidence and reasoning patterns that attitudes, actions and beliefs may be altered. Persuasive methods of declarative, classificatory, evaluative and actuate claims will be emphasized. (3-0) 3

SPH 2101 Parliamentary Procedure: Upon successful completion of SPH 2101 the student should be able to participate in business, professional, labor, service, and fraternal organizations that use the rules of parliamentary procedure. (1-0) 1

SPH 2300 Voice And Diction: Upon successful completion of SPH 2300 the student should be able to approximate the sounds of standard American English, identify them in simple words and employ the sounds through individual readings. The student should be able to demonstrate proper pronunciation, breath control, phrasing, pitch inflection and vocal variation for effective speech. (3-0) 3

SPH 2304 Public Speaking: Upon successful completion of SPH 2304 the student should be able to prepare and deliver the following speeches: informative, entertaining, and persuasive. In addition, the student should be able to introduce a speaker, present and accept awards and deliver impromptu speeches. Prerequisite: SPH 1300 or consent of Department Head. (3-0) 3

Industrial Safety, Health, Security And Investigations

SSH 3301 Principles Of Industrial Management: Upon completion of this course the student should be able to: (1) identify the line and staff concept and the role each function must play in a successful management team; (2) demonstrate an understanding of the various functions in the managerial process as it relates to decision making and policy formulation, organizing and staffing, planning and controlling, communicating and directing; (3) demonstrate knowledge of group decision-making process specifically relating to the various types of committee organizations and the group and inter-personal dynamics which exist therein; (4) demonstrate knowledge of the development of psychological principles as they have been applied to the industrial setting. (3-0) 3

SSH 3302 Hotel And Motel Security: Upon completion of this course the student should be able to: (1) demonstrate an understanding of the hotel/motel security function; (2) have a working knowledge of federal and state laws and local ordinances regarding the operation of hotel/motels; (3) analyze security hazards and outline protective measures such as: security organizations, threat evaluation, access control, protection of cash, emergency planning, fire prevention, and safety standards — (OSHA); (4) prepare a working plan for a hotel/motel to include areas indicated in (3) above. (3-0) 3

SSH 3304 Access Controls And Loss Prevention: Upon completion of this course the student should be able to: (1) determine strengths and limitations of security alarm systems; (2) understand the functional operations of common access control systems; (3) understand the fundamental operations of theft and risk control; (4) translate principles of loss prevention management into workable security procedures. (3-0) 3

SSH 3500 Introduction To Loss Prevention: Upon completion of this course the student should be able to: (1) understand the historical, philosophical and legal basis of security; (2) understand the fundamental principles of loss prevention and their role in modern society; (3) translate principles of loss prevention management into workable security procedures; (4) conduct a loss prevention survey of a facility incorporating personnel, information and physical security criteria. (5-0) 5

SSH 3501 Introduction To Principles Of Safety: Upon completion of this course the student should be able to: (1) identify principles of safety regarding equipment and machines, (2) demonstrate skills in placement and use of protection equipment, (3) demonstrate knowledge of safety principles in designing safety controls, (4) demonstrate knowledge of methodology required to design, install, and follow up a safety program. (4-2) 5

SSH 3503 Retail Security: Upon completion of this course the student should be able to: (1) recognize problems and practices associated with retail security; (2) prepare security proposals associated for a retail facility with regard to security measures; (4) understand the proper utilization of "honesty shoppers," undercover detectives, and employee morale building programs. (5-0) 5

SSH 3504 Occupational Safety And Health I: Upon completion of this course the student should be able to: (1) be familiar with principles of on-the-job and off-the-job safety programming; (2) be familiar with inter-relationship of safety, security, and fire systems, and programs; (3) demonstrate knowledge of use of basic Job Safety and System Safety Analysis techniques; (4) demonstrate knowledge of workplace health hazards and initial symptoms of those hazards; (5) be familiar with engineering controls, their value and limitations. (4-2) 5

SSH 3505 Occupational Safety And Health II: Upon completion of this course the student should be able to: (1) review plans and specifications for adequacy of safety, fire and security provisions; (2) design safety systems for the control of explosive atmospheres in vapors, dusts and gases; (3) design safety equipment and guards for semi-complex systems; (4) conduct complex employee health monitoring testing; (5) demonstrate familiarity with approved testing and monitoring equipment, its use and calibration. Prerequisite: SSH 3504. (4-2) 5

SSH 4290 Cooperative Education I: This internship is designed for the student planning to be licensed as a private detective in the State of North Carolina. It is one quarter in duration and should be completed in the last two quarters of study. Approval of the Program Director is required and application must be made to the Program Director at least three months prior to registration. Prerequisite: 80 hours completed in the CPCC Investigations Program. (0-20) 2

SSH 4291 Cooperative Education II: This course is a continuation of the intern program, and should be completed in the last quarter. Approval of the Program Director is required. Successful completion of Cooperative Education II will allow the student to make application to the Private Protective Services Board of North Carolina for a private detective license. Prerequisite: Successful completion of SSH 4290. (0-20) 2

SSH 4304 Special Problems In Industrial Safety: Upon completion of this course the student should be able to: (1) adapt modern methodological research techniques to a current problem in industrial safety through independent study; (2) make clear written presentation in appropriate format; (3) apply appropriate statistical analyses to the problem(s) of interest; (4) develop familiarity with available source data; (5) identify a viable project and carry the assigned task through to a logical conclusion. Prerequisite: SSH 3501. (2-2) 3

SSH 4500 Organization And Administration Of Safety, Health, And Loss Prevention Programs: Upon completion of this course the student should be able to: (1) demonstrate knowledge of all facets of a comprehensive safety program; (2) create a matrix of annual or semi-annual program direction to include all on-the-job and off-the-job elements of safety programming; (3) demonstrate how a comprehensive safety program would be administered to include motivational techniques, lines of communication, incentives, word programs, etc.; (4) demonstrate an ability to formulate a comprehensive health program to include all elements of employee pre-hire employment and post-hire care. Prerequisite: SSH 3501. (4-2) 5

SSH 4501 Industrial Hygiene And Toxicology: Upon completion of this course the student should be able to: (1) complete comprehensive reviews and make meaningful recommendations regarding methods of assessment, control or elimination of potential industrial hygiene or toxicology problems; (2) demonstrate familiarity with all carcinogen, mutagen and teratogen forming materials, their threshold limit values (TLV's) and lethal dose 50 (LD-50) values; (3) demonstrate knowledge of principles of ventilation, hazard control and the methods required to successfully cope with known and suspected hazards in the workplace. Prerequisite: SSH 3501. (4-2) 5

SSH 4504 Security Problems And Practices I: Upon completion of this course the student should be able to: (1) analyze and understand special problems and practices of the security profession; (2) prepare and conduct a security survey of an open office, office building, school campus, and airport; (3) identify problem areas and recommend procedures for safeguarding computer facilities; (4) prepare and implement procedures for security of transportation and cargo facilities. Prerequisite: SSH 3500. (4-2) 5

SSH 4510 Principles Of Interviewing And Interrogation: Upon completion of this course the student should be able to: (1) interview victims, witnesses, informants and complainants as a communicative relationship; (2) using professionally acceptable techniques, question suspects and persons in custody; (3) apply information obtained through the interview process for court testimony when required. (5-0) 5

SSH 4511 Nuclear Safety: Upon completion of this course the student should be able to: (1) define the procedures for maintaining radiation safety; (2) understand the effects of radiation exposure on health; (3) define current methods for radiation exposure control; (4) define methods used to control contamination; (5) define the methods used to sample radiation in the environment; and (6) prepare a nuclear emergency safety plan. (5-0) 5

SSH 4512 Nuclear Security: Upon completion of this course the student should be able to: (1) define the special requirement for nuclear security; (2) understand the threat to nuclear facilities; (3) design a method for controlling personnel access to controlled areas; (4) prepare a plan for escorting nuclear materials; (5) understand the planning necessary for possible nuclear disasters, and (6) design an evacuation plan for a possible nuclear disaster. (5-0) 0

SSH 4513 Computer Security: Upon completion of this course the student should be able to: (1) define the current threat to computer security; (2) define at least 10 methods of maintaining physical security; (3) define procedures for organizing electronic data-processing security; (4) define at least 10 methods of maintaining communications security; (5) define at least 10 systems of personal identification; and (6) construct a plan for evaluating a threat as to computation of loss and cost of countermeasures to neutralize the threat. (5-0) 5

SSH 4514 Electronics For Security: Upon successful completion of this course the student should be able to: (1) describe the current state of the art in basic electronic security devices; (2) describe the state of the art in audio intelligence gathering devices used for industrial espionage; (3) describe the most effective countermeasures to protect industrial audio; (4) prepare a plan for installation of electronic security devices; (5) prepare a plan to protect the audio in an industrial setting; and (6) know the current state and federal laws governing electronic surveillance and countermeasures devices and procedures. (5-0) 5

SSH 4515 Executive Protection And Terrorism: Upon completion of this course the student should be able to: (1) define the history of terrorism; (2) be familiar with the infra-structure of current terrorist organizations, including their objectives, philosophy and techniques; (3) define the current practices of executive protection and, in a given situation, construct a plan for executive protection. (5-0) 5

Transportation

TRN 3300 Introduction To Transportation: An introduction course which surveys the entire field of transportation, transportation management and the career opportunities available in the field. Upon successful completion of the course the student should be able to trace the development of the transportation system as it exists in the United States; compare the various modes of transportation; explain the career opportunities in each area of specialization including traffic management, sales, and operations; describe briefly how rates are established, explain how highways are financed, describe briefly the regulatory aspects of the industry including recent deregulation, and discuss different types of claims, and describe the operational aspects and management of companies involved in transportation. (3-0) 3

TRN 3303 Economics Of Transportation: Upon successful completion of this course the student should be able to trace the development of rail, water, highway, pipeline and air transportation; discuss and understand the economic importance of each carrier type and the part each plays in transporting goods in commerce; relate the development of federal and state regulations; discuss and explain the coordination to meet the needs of an expanding economy. (3-0) 3

Course Descriptions

TRN 3320 Motor Fleet Supervision I: This course is Part I of a two-part series designed for the individual who is responsible for fleet safety and security within the trucking industry. Part I will emphasize hiring, training, supervision and/or evaluating employees in the trucking industry. Upon successful completion of Part I, the student will be able to: identify and describe the essential elements of a fleet safety program as prescribed by the American Trucking Association (ATA); apply DOT requirements in employee selection procedure; apply DOT recommended procedures for training; demonstrate proper techniques in driver supervision as prescribed by the ATA; utilize DOT methods for physical safety and security of cargo. (3-0) 3

TRN 3321 Motor Fleet Supervision II: This course is Part II of a two-part series designed for the individual who is responsible for fleet safety and security within the trucking industry. Part II will emphasize accident prevention incentive awards, hours of service, communications and OSHA. Upon successful completion of this course the student should be able to: identify causes and prevention of accidents; apply proper procedures in the notification, reporting and recording of accidents as required by DOT regulations; establish and conduct incentive award programs; complete and supervise completion of DOT required documents of travel; apply effective communication techniques; interpret and apply applicable OSHA regulations; design (in writing) a fleet safety supervision program including all essential elements as prescribed by the ATA. Prerequisite: TRN 3320. (3-0) 3

TRN 3351 Traffic Management: Upon successful completion of the course, the student should be able to: compare for-hire carriers and company-operated transportation as to services and costs; analyze and interpret freight tariff; explain freight classification and rate structure; identify various routing procedures; define in transit arrangements, reconsignments and diversions, apply procedures to avoid demurrage; describe documentation, and movement of export and import traffic; identify areas of carrier liability and methods of processing freight claims. Prerequisite: None, however, TRN 3300 is recommended. (3-0) 3

TRN 3360 Motor Carrier Rates: A problems approach to the study of motor carrier rates and charges. Emphasis is placed on tariffs published by the Southern Motor Carrier Rate Conference. Upon successful completion of this course the student should be able to: discuss the classification, construction and application of rates and charges; compute simple rate problems; apply various Southern Motor Carrier Rate Conference Tariffs to practice problems. Prerequisite: TRN 3300. (3-0) 3

TRN 3500 Traffic And Transportation Management I: Upon successful completion of this course the student should be able to: discuss the history of different modes of transportation and their development; discuss and relate the development of and early regulations of the traffic industry; relate the functions of an industrial traffic manager; explain the requirements of the laws governing the publications and publishing agent classification; relate the components of and factors affecting classification; apply and relate freight rates to various modes and parcel services; document required by the industry. (5-0) 5

TRN 3501 Traffic And Transportation Management II: Upon completion of this course, the student will be able to explain the historical development of different transportation modes; describe the beginnings of transportation regulation; list the functions of a traffic manager; list and explain the publication of carrier classifications, tariffs and freight classifications; describe elements and factors entering in the classification of articles; appraise the effects of freight classification on the various modes and shipping public; apply classification rules; plan routing; complete shipping documents; distinguish between special freight services; and discuss filing of claims against the carrier. Prerequisite: 3500. (5-0) 5

TRN 3502 Traffic And Transportation Management III: Upon successful completion of this course the student will be able to apply practical knowledge and affect implementation in the following areas of transportation; tariff circulars; construction and filing; freight rates; terminal facilities and switching; demurrage and detention; reconsignment and diversion; stopping in transit to partially load or unload; weights and weighing; routing; embargoes; terms of sale; materials handling; and packaging. Prerequisite: TRN 3500, TRN 3501. (5-0) 5

TRN 3503 Traffic And Transportation Management IV: Upon successful completion of this course the student should be able to: trace the evolution of the Interstate Commerce Act; explain the construction of the Act; interpret the Act and its application; describe the application of penalties under the Act; describe the creations and organization of the Act; explain the procedures and practices before the Commission; detail the statutory authority for awarding damages; describe the process of review of the Commission's decision. (5-0) 5

TRN 4351 Freight Claims: Upon successful completion of this course the student should be able to: investigate damaged shipments; gather and present facts to determine carrier liability; file and process a claim for payment; describe actions shipper and carrier can take to prevent damage from loss, damage, or delay. (3-0) 3

TRN 4354 Transportation Law: Upon successful completion of this course the student should be able to: trace the history of the Interstate Commerce Act of 1887 to the present; relate court cases interpreting it and related acts affecting interstate commerce; decide when goods shipped in commerce are subject to federal regulation; relate rights, duties, and obligations the act imposes upon shippers and carriers; explain the authority and duties of the Interstate Commerce Commission; recognize violations of the law; gather data in connection with violations; present cases to the commission in the form prescribed; apply procedures necessary to establish data as facts; explain how applications for new authority and proposed rate investigations are made. The student will also be able to explain the implications of the Motor Carrier Act of 1980, the Staggers Rail Act, and the Airline De-regulation Act for shippers and carriers. (3-0) 3

TRN 4356 Physical Distribution Management: Upon successful completion of the course the student should be able to describe the movement and storage of finished goods from the end of the production line to the ultimate consumer; identify the various segments involved in physical distribution; compare the advantages and disadvantages of each segment in order to make more cost effective decisions. (3-0) 3

TRN 4358 Warehousing: A course which examines warehousing from two perspectives — the user of public or private warehousing and the warehouse operator who handles them. Upon successful completion of the course the student should be able to: describe the types of warehousing public and private; user considerations; list and explain various management methods and concepts for the operator of a warehouse facility; recognize and describe the different types of equipment used in material handling. (3-0) 3

TRN 4360 Motor Carrier Management: Upon successful completion of the course the student should be able to: plan a small trucking fleet to insure proper equipment selection, conduct cost analysis on buying or leasing equipment; select the proper insurance and licenses for operation; apply proper budgeting techniques to develop cost per mile figures to insure a cost effective operation. (3-0) 3

TRN 4370 Transportation Seminar: An individualized course designed for the advanced transportation management student to expand knowledge of principles and techniques acquired in prerequisite courses and to relate that knowledge to practical situations through the techniques of simulations, case studies and specialized industry projects and tailored to the students career objective. Upon successful completion of the course the student should be able to apply the skills and practices necessary for the successful performance in the chosen career area of transportation. Prerequisite: All other transportation courses in area of specialization. (3-0) 3

TRN 4397 Export/Import Management: Upon successful completion of the course the student should be able to: trace the development of the international freight forwarders and explain their primary functions; discuss legal and regulatory controls; describe fundamentals of ocean and air shipping; apply importation and clearance procedures; arrange for domestic shipping and handling of Import/Export Traffic; locate sources of information and special services; plan for insurance coverages; and describe terms of payment. (3-0) 3

Visual Communications

VCO 3301 Illustration: Upon completion of this course the student should be able to: (1) identify the types of illustrations in use today; (2) execute preliminary comps for illustrations; (3) make spot illustrations; (4) execute illustrations with the use of mechanical drawing aids; and (5) prepare full color illustrations using a variety of media. Prerequisite: ART 1306, ART 1326. (2-2) 3

VCO 4100 Seminar I: This course is designed to orient commercial art students in their program; to provide opportunity for interaction with other commercial art students; and to assist in individual assessment of personal growth. (1-0) 1

VCO 4101 Seminar II: In this course students will examine more closely the various options and career opportunities in Commercial Art through formal presentations and guest speakers. (1-0) 1

VCO 4304 Typography And Lettering I: In this course the student will examine the principles of hot metal and photo composition and will know and use appropriate typographic terminology. Using a variety of media, the student will be able to identify and execute specific typesets from rough indication to comprehensive lettering. (2-2) 3

VCO 4305 Typography And Lettering II: In this course the student will develop the ability to recognize and use a wide variety of type-faces in practical problems. Typography will be explored as an element of design in both headline copy and paragraphing formats. Various methods of phototype and computer type-setting systems will be discussed. (2-2) 3

VCO 4310 Fashion Illustration I: In this course the student will sketch wearing apparel in a variety of media and will use the human figure extensively in these illustrations. Prerequisite: ART 1306. (2-2) 3

VCO 4311 Fashion Illustration II: In this course the student will continue to broaden illustrative techniques and explore other subject matter such as accessories and furnishings in addition to the figure, examining and reorganizing layout problems through the production stages. Prerequisite: VCO 4310. (2-2) 3

VCO 4313 Cartooning and Caricaturing: In this course the student will analyze techniques in cartooning and caricature, drawing and interpreting given problems with an emphasis on originality. (2-2) 3

VCO 4323 Commercial Sign Painting: In this course the student will gain practical experience in the recognition and application of the principles of layout, design, typography, and color as they apply to commercial sign painting. (2-2) 3

VCO 4324 Copywriting I: In this course the student will learn the basics of writing effective copy for print media (newspapers and magazines). The student will produce layouts and be able to fit copy using appropriate type specifications. Prerequisite: COM 1304. (3-0) 3

VCO 4325 Copywriting II: In this course the student will apply copywriting basics to create effective copy for outdoor and broadcast media (radio and television). Prerequisite: VCO 4324. (3-0) 3

VCO 4390 Independent Study: Provides opportunity for the individual student or group to work beyond the limits of the regular commercial art offerings on self-determined objectives utilizing the resources of the Art Division. (3-0) 3

VCO 4414 Advertising Production I: Upon completion of this course, the student will be able to properly use basic materials and tools for layout and mechanical artwork. The student will understand printing and production processes including the appropriate terminology necessary for this business. Good print advertising will be analyzed and field trips scheduled. Prerequisite: ART 1306, ART 1326. (3-2) 4

VCO 4415 Advertising Production II: In this course the student will produce more complex layout and mechanical art, including a self-promotional folder. Conceptualizing ideas and coordination of typography, paper, halftone and color are stressed. Special graphic effects such as embossing, die cutting, use of screens, and color keys will be studied. Prerequisite: VCO 4414. (3-2) 4

VCO 4416 Advertising Production III: In this course the student will solve an assigned communications problem through the stages of concept and layout to the printed product; will continue to expand creative and technical abilities; and will be able to select appropriate production techniques for a variety of communications problems. Prerequisite: VCO 4415. (3-2) 4

Welding

WLD 5150 Welder's Qualification Test I: Upon completion of this course the student should be able to: (1) satisfactorily complete a welding test on $\frac{1}{4}$ " carbon steel using the shielded metal arc process, with $\frac{1}{8}$ " — AWS E6010 electrodes in the flat, vertical upward, horizontal and overhead positions. The test must meet specified CPCC guided bend and tensile test standards; (2) satisfactorily complete a welding test on $\frac{1}{4}$ " carbon steel using the shielded metal arc process, with $\frac{1}{8}$ " — AWS E7018 electrodes in the flat, vertical upward, horizontal and overhead positions. The test must meet specified CPCC guided bend and tensile test standards. Prerequisite: Student must show evidence of adequate training in a community college, technical institute, vocational trade school, or on-the-job training; and obtain Welding Program Director approval. (0-3) 1

WLD 5210 Basic Oxyacetylene Welding: Upon completion of this course the student should be able to: (1) assemble and operate the oxyacetylene welding equipment; (2) demonstrate surface welding, bronze welding and flame cutting methods applicable to mechanical repair work; (3) practice safety precautions pertaining to oxyacetylene welding and cutting. (1-3) 2

WLD 5220 Basic Electric Arc Welding: Upon completion of this course the student should be able to: (1) operate a rectifier type welding machine; (2) weld different types of joints in the flat position; (3) practice safety precautions pertaining to electric arc welding. (1-3) 2

WLD 5240 Introductory Pipe Welding: Upon completion of this course the student should be able to: (1) weld pipe in the horizontal, vertical and horizontal fixed position using arc welding processes; (2) practice safety precautions pertaining to arc welding. Prerequisite: WLD 5820. (1-3) 2

WLD 5250 Basic Gas Metal Arc Welding: Upon completion of this course the student should be able to: (1) assemble and operate the gas-metal arc welding equipment; (2) weld different types of joints in the flat position; (3) select welding heats and shielding gases; (4) practice safety precautions pertaining to gas metal arc welding. (1-3) 2

WLD 5267 Certification Practice: Upon completion of this course the student should be able to: (1) weld various metals to meet CPCC certification standards using oxyacetylene, electric arc, gas tungsten arc, and gas metal arc welding processes; (2) practice safety precautions involved in using the welding equipment and other tools. Prerequisite: WLD 5610, WLD 5820, WLD 5830. (0-6) 2

WLD 5268 Certification Testing: Upon completion of this course the student should be able to: (1) use various tests including guided bend and tensile tests to check the quality of work; (2) demonstrate skill in producing quality welds. Prerequisite: WLD 5610, WLD 5820, WLD 5830. (2-0) 2

Course Descriptions

WLD 5301 Blueprint Reading For Welders I: Upon completion of this course the student should be able to: (1) sketch multi-view drawings; (2) interpret conventional lines, dimensions, notes and welding symbols; (3) make pictorial sketches; (4) interpret industrial drawings used in welding shops. (3-0) 3

WLD 5302 Blueprint Reading For Welders II: Upon completion of this course the student should be able to: (1) read and interpret industrial welding prints of a more complex nature; (2) make sketches of welding assemblies. Prerequisite: WLD 5301. (3-0) 3

WLD 5311 Oxyacetylene Welding And Cutting I: Upon completion of this course the student should be able to: (1) demonstrate knowledge of the principles of oxyacetylene welding and cutting; (2) describe the nomenclature of the equipment; (3) properly assemble all components; (4) be able to form a puddle and carry the puddle forming weld beads in the flat position on different types of joints, and practice all safety precautions involved in oxyacetylene welding. (2-3) 3

WLD 5312 Oxyacetylene Welding And Cutting II: A continuation of WLD 5311. Upon completion of this course the student should be able to: (1) weld in all positions on different types of joints; (2) cut ferrous metals; (3) perform brazing operations; (4) visually inspect all welds to determine quality; (5) practice all safety precautions involved in oxyacetylene welding and cutting. Prerequisite: WLD 5311. (1-6) 3

WLD 5355 Commercial And Industrial Practices I: Upon completion of this course the student should be able to: (1) demonstrate skill developed through practice in simulated industrial processes and techniques; (2) sketch, layout, list procedures and construct a project following these procedures; (3) repair worn or broken parts by special welding application; (4) perform non-destructive tests and inspection; (5) practice safety precautions involved in the welding industry. Prerequisite: WLD 5610, WLD 5820, WLD 5830. (1-6) 3

WLD 5356 Commercial And Industrial Practices II: A continuation of WLD 5355. Upon completion of this course the student should be able to demonstrate additional skill in those areas outlined in WLD 5355. Prerequisite: WLD 5355. (1-6) 3

WLD 5401 Basic Calculations For Welders: Upon completion of this course the student should be able to: (1) apply the principles of addition, subtraction, multiplication and division to problems indigenous to the welding field; (2) apply the functions of ratio and proportion to length and altitude of dimensions; (3) accurately read a ruler; (4) calculate the percent of error involved in a given measurement; (5) manipulate fractional and decimal numbers; (6) find weights and capacities of stock using area and volume formulas; (7) use simple algebraic equations to solve problems in the field; (8) understand angular measurement; (9) read pressure gauges and electrical gauges. (4-0) 4

WLD 5404 Pipe Welding: Upon completion of this course the student should be able to: (1) weld pipe in the horizontal, vertical and horizontal fixed position and in the 6G position using 6010 and 7018 rod; (2) complete test specimens to specifications indicated and; (3) practice safety precautions appropriate for the above activity. Prerequisite: Welding Program Director approval. (2-6) 4

WLD 5421 Arc Welding I: Upon completion of this course the student should be able to: (1) operate an AC transformer, rectifier and DC motor generator arc welding machine; (2) select welding heats, polarities and electrodes used in joining various metal alloys; (3) weld different types of joints in the flat position; (4) practice safety precautions pertaining to electric arc welding. (2-6) 4

WLD 5422 Arc Welding II: A continuation of WLD 5421. Upon completion of this course the student should be able to: (1) weld different types of joints in all positions, (2) make intermittent welds and multiple passes; (3) test welds to detect weaknesses and imperfections; (4) practice safety precautions pertaining to electric arc welding. Prerequisite: WLD 5421. (2-6) 4

WLD 5431 Gas Tungsten Arc Welding I: Upon completion of this course the student should be able to: (1) operate an inert-gas-shielded arc welding machine; (2) understand equipment operation and safety procedures; (3) weld different types of joints in the flat position; (4) practice safety precautions pertaining to inert-gas-shielded arc welding. (2-6) 4

WLD 5432 Gas Tungsten Arc Welding II: A continuation of WLD 5431. Upon completion of this course the student should be able to: (1) weld different types of joints in all positions; (2) select welding heats, shielding gases and filler rods; (3) practice safety precautions pertaining to inert-gas-welding. Prerequisite: WLD 5431. (2-6) 4

WLD 5450 Gas Metal Arc Welding: Upon completion of this course the student should be able to: (1) assemble and operate the gas metal arc welding equipment; (2) weld different types of joints in the flat, vertical and horizontal positions on steel sheet metal, plate and aluminum plate; (3) select welding heats and shielding gases; (4) practice safety precautions pertaining to gas metal arc welding. (2-6) 4

WLD 5610 Oxyacetylene Welding And Cutting: Upon completion of this course the student should be able to: (1) demonstrate a knowledge of the principles of oxyacetylene welding and cutting; (2) describe the nomenclature of the equipment; (3) properly assemble all components; (4) form a puddle and carry the puddle forming weld beads in all positions on different types of joints; (5) cut ferrous metals; (6) perform brazing operations; (7) visually inspect all welds to determine quality; (8) practice all safety precautions involved in oxyacetylene welding and cutting. (3-9) 6

WLD 5654 Commercial And Industrial Practices: Upon completion of this course the student should be able to: (1) demonstrate skills developed through practice in simulated industrial processes and techniques; (2) sketch, lay out, list procedures and construct a product following these procedures; (3) repair worn or broken parts by special welding applications; (4) perform non-destructive tests and inspection; (5) practice safety precautions involved in the welding industry. Prerequisite: WLD 5610, WLD 5820, WLD 5830. (2-12) 6

WLD 5820 Arc Welding: Upon completion of this course the student should be able to: (1) operate an AC transformer, rectifier, and DC motor generator arc welding machine; (2) select welding heats, polarities and electrodes used in joining various metal alloys; (3) weld different types of joints in all positions; (4) practice safety precautions pertaining to electric arc welding. (4-12) 8

WLD 5830 Gas Tungsten Arc Welding: Upon completion of this course the student should be able to: (1) operate an inert-gas-shielded arc welding machine; (2) select welding heats, shielding gases and filler rods; (3) understand equipment operation and safety procedures; (4) weld different types of joints in all positions; (5) practice safety precautions pertaining to inert-gas-shielded arc welding. (4-12) 8



Faculty and Professional Staff

- ADAMS, NORMA V., Child Care Training Center
Undergraduate work at University of South Carolina.
- ALBRIGHT, JUDY, Accounting
B.S., 1970; M.A., 1971 (Appalachian State University).
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- ALLRED, CAROLYN M., Health and Physical Education
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- ALVAREZ, JOSEPH ANTHONY, Language and Humanities
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- AMBROSE, O. DONALD, Media Production
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- AMMERPOHL, HENRY, Economics
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- ANDERSON, GEORGE, Mathematics
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- ARTIS, WILLIE MILTON, Advancement Studies
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- ATES, WILNA ELAINE, Computer Science
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- ATKINSON, EVA GRACE, Advancement Studies
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- BAKITA, JOHN, Behavioral and Social Science
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- BALLARD, CARL N., Accounting
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- BALLARD, SARA WARREN, Secretarial Curricula
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- BARWICK, JOSEPH T., Language and Humanities
A.B., 1967; M.A.T., 1968 (University of North Carolina at Chapel
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- BATES, VIRGINIA H., Mathematics
B.S., 1949 (University of Arkansas); M.A.T., 1971 (Winthrop
College).
- BELL, AUGUSTA, Language and Humanities
B.J., 1946 (University of Texas); M.A., 1957 (Northwestern
University).
- BELL, EMMA GAYLE, Library Services
A.B., 1968 (Johnson C. Smith University).
- BENJAMIN, BRENDA L., Programmer/Analyst
Studies at State University of New York and New York City
College.
- BEST, FRANCES, P., Associate Degree Nursing
B.S.N., 1958 (University of North Carolina at Chapel Hill).
Registered Nurse.
- BLACKWELDER, BRENDA CAROLE, Biology
B.A., 1963 (Queens College); M.A., 1965 (Wake Forest
University); Ph.D., 1974 (University of South Carolina).
Additional graduate work at Duke University, University of South
Florida. Certificate, Secondary Education — Biology and Art.
- BLALOCK, HOYLE LEE, JR., Department Head, Computer
Science
B.S., 1961; M.Ed., 1966 (North Carolina State University at
Raleigh). Professional Certificate in Data Processing.
- BOUKOUVALAS, COSTAS S., Director, Special Services
A.A., 1960 (Warren Wilson College); B.S., 1963 (North Carolina
State University); M.A., 1970 (North Carolina State University).
Additional graduate work at North Carolina State University.
- BRANCH, JAMES EDWARD, Advancement Studies
B.S., 1957 (Winston-Salem State University); M.Ed., 1972
(University of North Carolina at Charlotte). Additional graduate
work at University of North Carolina at Charlotte.
- BROWN, DAVID A., Instructor, Health and Physical Education
B.S., 1973 (University of Massachusetts) M.S., 1982 (Mankato
State University).
- BROWN, EMMA W., Counselor
B.S., 1968 (Barber-Scotia College); M.Ed., 1975 (University of
North Carolina at Charlotte).
- BROWN, ERNEST LOUIS, Business Administration
Ch.E., 1943 (University of Cincinnati); M.B.A., 1954 (University
of Chicago).
- BRYAN, NANCY SHEARIN, Secretarial Curricula
B.S., 1964; M.A., 1967 (Appalachian State University).
- BRYANT, ROLLA GENE, Department Head, Performing Arts
B.M., 1950 (Central Methodist College); M.Ed., 1957 (University
of Missouri). Additional graduate work at University of Illinois.
- BRYANT, WYLIE LEE, Automotive Mechanics
Training Manager, Cummins Carolinas, Inc., Aircraft Training
School, USAF.
- BULLARD, RONALD W., Media Services
A.A., 1974 (Central Piedmont Community College). Additional
undergraduate work at Central Piedmont Community College.
- BUCHANAN, CHRISTINE C., Administrative Assistant
to the President
A.A., 1949, (Draughan's Business College).
- BUCHANAN, WILLIAM S., Coordinator, Security and Safety
B.S., 1947, (San Francisco College).
- BURNETT, ANN, Director, Registration,
Diploma 1963, Waco Business College. Additional courses at
Central Piedmont Community College.
- BURNS, HERBERT, Department Head, Accounting
B.S., 1964; M.A., 1967 (Appalachian State University); Ed.D.,
1979 (Nova University).
- BUTLER, JOHN PATRICK, Accounting
B.A., 1961 (Belmont Abbey College); M.B.A., 1977 (Winthrop
College). Additional graduate work at University of North
Carolina at Chapel Hill.
- BYERS, WANDA, Interpreter, Special Services
State Level III, 1979 (Charlotte, North Carolina).
- CAHILL, JAMES D., Business Administration
B.S., 1947 (Georgia Institute of Technology).
- CALDWELL, RAY VON, Biology
A.B., 1953 (Lenoir-Rhyne College); M.Ed., 1959 (University of
North Carolina at Chapel Hill). Additional graduate work at
Converse College.
- CAMPBELL, E. WORTH, JR., Assistant to the President
B.S., 1953 (Appalachian State University); M.Ed., 1958 (University
of North Carolina at Chapel Hill). Additional graduate work at
North Carolina State University and Converse College.
- CAMPBELL, H. EDWIN, Director, Occupational Extension
B.A., 1960 (Samford University). Additional study at University of
Tennessee and College of William and Mary.
- CANNON, ALICE F., Assistant Director Telephone and
Mail-In Registration
Diploma, 1974 (King's College).
- CANNON, JAMES E., Program Director, Hotel-Restaurant
Management
Certificate, 1973 (Ramada Inns International Management Development).
- CARNES, ROSEMARY H., Computer Operator, Administrative
Services
Diploma 1949, Indian Land High School
- CARRIKER, JANE LINDSAY, Program Director, Medical Office
Assisting
Diploma, 1942 (Montreat Junior College); Diploma, 1945
(Presbyterian Hospital School of Nursing). Additional work at
North Carolina State University and University of North Carolina
at Chapel Hill. B.A., 1972 (Limestone College).
- CARTER, ROBERT DARYLE, JR., General Ledger Accountant,
Business Office
B.S., 1964 (North Carolina Central University); M.B.A., 1966
(New York University).

Faculty and Staff

- CASH, DAVE B., Health and Physical Education
A.B., 1953 (University of South Carolina); M.A., 1974 (University of North Carolina at Charlotte).
- CESENA, CLAIRE B., Associate Degree Nursing
Diploma, 1953 (Dickinson Hospital School of Nursing); B.A. Degree, 1973 (Sacred Heart College); M.Ed., 1978 (University of North Carolina at Charlotte).
- CHAPMAN, DON E., Performing Arts
B.F.A., 1975 (Memphis Academy Arts).
- CHASE, JEAN C., Language and Humanities
A.B., 1946 (University of North Carolina at Greensboro); M.A., 1947 (University of Michigan). Additional graduate study at University of Virginia, University of North Carolina at Greensboro and University of North Carolina at Charlotte.
- CHEEK, KAROL C., Biology
B.S., 1960, M.S., 1961 (University of South Carolina).
- CHEEK, WILLIAM EDWARD, Physical Science
B.A., 1953, M.A., 1957 (Appalachian State University); M.A., 1962 (George Peabody College). Additional graduate work at University of North Carolina at Chapel Hill, Michigan State, Duke University, Vanderbilt University, Kansas State University, University of North Carolina at Charlotte, and Nova University. Ph.D., 1978.
- CHESHIRE, NANCY CAROLYN, Program Director,
Extended Nursing Education
B.S.N., 1959 (Duke University); M.S.N., 1963 (University of Maryland); M.Ed., 1977 (University of North Carolina at Charlotte).
- CHESHIRE, THOMAS E., Behavioral and Social Science
B.A., 1967 (North Carolina Wesleyan College); M.A., 1968 (Appalachian State University). Licensed Psychological Examiner.
- CHILDRESS, FAYE B., Mathematics
B.S., 1969 (West Virginia Institute of Technology); Masters, 1975, (University of North Carolina at Charlotte)
- CHILTON, HELEN, Mathematics
B.S., 1954 (University of North Carolina at Greensboro); M.A., 1976 (University of North Carolina at Charlotte).
- CHRONAKI, BESSIE., Language and Humanities
A.B., 1961; M.A., 1966; Ph.D., 1976 (Duke University).
- CLASSEY, GEORGIA, Programmer/Analyst
A.A., 1979 (Central Piedmont Community College). Additional study Clemson University.
- COEN, JUDITH K., Physical Science
B.S., 1970 (University of North Carolina at Charlotte).
- COGGINS, BOB G., Program Director, Police Science
B.S., 1967 (Pembroke State University); M.Ed., 1968 (West Chester State College); Ph.D., 1970 (University of New Mexico).
- COLLINS, KEN D., Lab Instructor, Electrical/Electronics
Engineering Technology
A.A.S., 1979 (Central Piedmont Community College).
- COLLINS, MARYBETH McCLURG, Behavioral and Social
Science
B.A., 1969 (Wittenberg University); M.S., 1972 (Purdue University).
- COOK, RICHARD, Electronics Technician,
Media Services
Studies at Miami Dade Junior — College and Central Piedmont Community College.
- COULTER, J. LEON, Behavioral and Social Science
B.S., 1951, M.A., 1953 (Appalachian State University); Ed.D., 1960 (Florida State University). Additional graduate study at Appalachian State University.
- COVINGTON, TOM, Media Production
B.A., 1976 (Appalachian State University).
- COX, CHARLES A., III, Computer Center
A.A., 1979 (Central Piedmont Community College).
- COX, DEBORAH S., Programmer/Analyst
A.A.S., 1977 (Central Piedmont Community College).
- COZEAN, JOHN M., Assistant to Vice President,
Careers Group
B.A., 1950, M.Ed., 1957, M.Ed., 1963 (University of Missouri). Additional graduate work at University of Missouri and Washington University.
- CRADDOCK, PATSY DENNIS, Level II: Program Director,
Nursing Education Group
Diploma, 1956 (Presbyterian Hospital School of Nursing); B.S., 1958 (Queens College); M.Ed., 1976 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte.
- CRAWFORD, JOYCE D., Secretarial Curricula
B.S., 1962 (Barber Scotia College). Additional study at University of North Carolina at Greensboro. M.A.T., 1975 (Winthrop University).
- CREEK, MACY A., Language and Humanities
B.A., 1964 (Westminster College); M.A., 1969 (University of Missouri). Additional graduate work at University of Pittsburgh and Oxford University.
- CROSIER, RUBY FOSTER, Accounting
B.A., 1940 (Catawba College); M.Ed., 1969 (University of North Carolina at Greensboro). Additional graduate study, North Carolina State University.
- CUDD, DENNIS, Media Services
A.A., 1967 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte).
- D'ARMOND, ROBERT J., Program Director, Auto Body Repair
Graduate of Chrysler Trade School; A.A., 1974 (Central Piedmont Community College); Additional graduate work at Michigan State; Carnegie-Mellon University; and Chrysler Institute of Technology.
- DAVENPORT, E. SCOTT, Facilitator, West Area
Learning Center
A.A., 1979 (Central Piedmont Community College); Additional studies at Central Piedmont Community College.
- DAVIS, DIANE, Media Production
B.A., 1975 (East Carolina University); AA, 1979 (Randolph Technical College)
- DAVIS, JAMES, Insurance Specialist
A.A., 1969 (Southern Business College). Life and Health Insurance Underwriter — Notary Public.
- DEADWYLER, MARJORIE H., Dental Hygiene
A.A.S., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte). Additional Studies at Southern Methodist University. Dental Hygienist License in North Carolina and South Carolina
- DePAULA, WILIAN, International Student Advisor
LL.B., 1963 (Candido Mendes Law School of Rio de Janeiro, Brazil); English Certification, 1967 (John Kennedy Institute of Languages, Teacher training at Cambridge Institute of Rio de Janeiro, Brazil).
- DePAULA, ZILDA SOUZE, Department Head,
International Culture
B.A., 1963 (University of Brazil); Certificates of Achievement from Argentina Cultural Institute and Institute Brazil U.S.A. in 1969. Additional study at University of North Carolina at Charlotte, Harvard University, Tazigi Institute, and Kremer Course.
- DIXON, LOIS WILLIAMS, Division Head, Business Administration
B.S., 1962 (Pfeiffer College); M.Ed., 1967 (University of North Carolina at Chapel Hill); Ph.D., 1977 (University of Texas).
- DRUM, LEWIS FISHER, Physical Science
B.S., 1938 (Lenoir-Rhyne College); B.Ch.E., 1939, M.S., 1941 (North Carolina State University). Additional graduate work at Appalachian State University and North Carolina State University).
- EARGLE, KENT RHODES, Director, Resource Development,
Student Financial Aid, and Student Employment
B.A., 1970; M.Ed., 1971 (University of South Carolina). Additional graduate work at West Georgia College.
- EDMUNDS, JESSICA L., Dental Assisting Instructor
Dental Assisting Certificate, 1976 (Central Piedmont Community College); B.S., 1981 (University of North Carolina at Chapel Hill).
- EDWARDS, GRACIE L., Biology
A.A., 1969 (Central Piedmont Community College); Additional undergraduate work at the University of North Carolina at Charlotte; B.A., 1981 (Thomas Edison College, Trenton, N.J.).
- EDWARDS, LIENNE D., Associate Degree Nursing
B.S.N., 1971 (University of North Carolina at Chapel Hill). Registered Nurse. Certified Childbirth Educator, 1975; M.S.N., 1979 (University of North Carolina at Greensboro).
- FALCONI, JAMES T., Library Services
B.A., 1975 (Richmond College, City University of New York).
- FARKAS, A. G., Program Director, Architectural and Civil
Engineering Technology
B.S.C.E., 1948, M.S.C.E., 1959 (Washington University). Additional graduate work at Duke University and North Carolina State University. Registered Professional Engineer.
- FLANAGAN, J. DAVID, Behavioral and Social Science
B.A., 1963, M.A., 1969 (University of Florida).
- FORD, PATRICIA, Biology
H.S. Diploma, 1970 (Harding High School).

- FRAZIER, PEARLINE W., Director, Student Records
Attended City College New York; Diploma, 1962 (McCrorey YMCA Business Classes).
- FREEMAN, LOUIS F., Division Head, Art
B.F.A., 1951 (School of the Art Institute of Chicago); M.Ed., 1966 (University of Missouri). Additional graduate work at Washington University.
- FREEMAN, MARY E., Health Careers Lab
Registered Nurse, 1944 (Flat River Junior College); Diploma, 1947 (Jewish Hospital School of Nursing, St. Louis).
- FRIEDLEIN, LAURA, Public Information and Special Projects
B.A., 1976, (University of North Carolina at Chapel Hill).
- FRYKBERG, RAE, Area Coordinator, West Area Learning Center
B.A., 1969 (Appalachian State University); M.Ed., 1981 (Winthrop College).
- FULSON, BERNICE POOLE, Practical Nursing
Diploma, 1952 (Kate Bitting Reynolds Memorial Hospital); B.S., 1964 (Queens College); M.Ed., 1972 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte and North Carolina State University, Raleigh. Registered Nurse.
- FUNDERBURKE, BETTY JEAN, Director, Personnel
B.A., 1953 (North Carolina Central University). Additional study at University of North Carolina at Chapel Hill, University of Chicago, and University of North Carolina at Charlotte.
- FUSSELL, ROBERT CURTIS, JR., Electrical/Electronic
Engineering Technology
B.S., 1968 (Valparaiso Technical Institute). Graduate work at University of North Carolina at Raleigh.
- GADSDEN, CHRISTINE, Secretarial Curricula
A.A., 1959 (Carver College).
- GARMON, SANFORD D., JR., Program Director, Diesel
Mechanics
Diploma, 1968, A.G.E., 1972 (Central Piedmont Community College).
- GARVEY, BETTY A., Associate Degree Nursing
Diploma, 1973 (St. Anthony Hospital School of Nursing); B.S.N., 1978 (Central State University); M.S.N., 1980 (The University of Alabama at Birmingham).
- GAY, MELVIN L., Vice President, Student Development
B.A., 1967 (North Carolina Wesleyan College); M.A., 1969, Ph.D., 1974 (University of North Carolina at Chapel Hill).
- GESTWICKI, CAROL, Human Services Associate
B.Sc.N., 1962 (McMaster University, Hamilton, Ontario, Canada); M.A., 1970 (Drew University).
- GLOVER, DOROTHY GOVE, Practical Nursing
Diploma, 1941 (Mercy College of Nursing); B.A., 1971 (Limestone College); M.Ed., 1976 (University of North Carolina at Charlotte). Registered Nurse.
- GOSSETT, ROBERT L., Department Head, Allied Health
B.S., 1950 (University of Dayton); M.P.H., 1968 (University of North Carolina at Chapel Hill). Certificate in Physical Therapy, 1951 (Cleveland Clinic).
- GOW, ALEXANDER, III, Counselor
A.B., 1958 (Duke University); M.Ed., 1968 (University of North Carolina at Chapel Hill).
- GRAHAM, H. PAIGE, Reading
B.A., 1972; M.A., 1974 (University of South Florida).
- GRANGER, W. FRANKLIN, Program Director, Graphic Arts
A.G.A., 1970 (Chowan College); B.S., 1973 (Arkansas State University); M.A., 1977 (California State University at Los Angeles). Additional graduate work at Central Missouri State University.
- GRAY, DARRELL L., Student Activities
A.A., 1975 (Central Piedmont Community College); B.A., 1977 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte.
- GREENE, GARY Y., Mechanical Engineering Technology
B.S., 1954 (North Carolina State University). Additional Study at University of Tennessee — P.E. (Professional Engineer).
- GREENE, ROBERTA J., Business Administration
B.A., 1965 (Talladega College); M.S., 1975 (Trinity University).
- GREGORY, RICHARD B., Secretarial Curricula
B.S., 1962, M.A., 1966 (Appalachian State University); Ed.D., 1977 (Nova University).
- GREGORY, ROSE M., Facilitator, West Area
Learning Center
Undergraduate work at Central Piedmont Community College.
- GREINER, PATRICIA, Reading
B.S., 1952 (Purdue University); M.Ed., 1976 (Clemson University). Additional graduate work at Florida State University.
- GRIFFIN, HOKE S., Behavioral and Social Science
B.A., 1962, M.A.T., 1966 (University of Florida). Additional study at Florida State University, University of Pennsylvania, University of Rochester, Punjab University (Lahore, Pakistan).
- GRIFFIN, MARY W., Financial Aid
A.A.S., 1981 (Central Piedmont Community College).
- GRIFFIN, THOMAS EDWARD, Department Head, Advancement
Studies
B.S., 1952 (Western Carolina University); M.A., 1964 (Appalachian State University). Additional graduate work at University of North Carolina at Chapel Hill and North Carolina State University. Ed.D., 1976 (Nova University).
- GYLES, RONALD CORBIN, Electrical/Electronics
Engineering Technology
B.E.E., 1943, B.S., 1950, M.I.A., 1956 (North Carolina State University). Registered Professional Engineer.
- HAGAN, MARGARET, Behavioral and Social Science
A.A., 1975 (Florida Junior College at Jacksonville)
- HAGEMEYER, RICHARD H., President
B.S., 1939 (Bowling Green University); M.A., 1951 (University of Michigan); Ed.D., 1961 (Wayne State University).
- HAGLER, MITCHELL, JR., Assistant to Vice President, General
Studies Group
B.S., 1960 (Appalachian State University); M.A., 1965 (Peabody College); Ed.S., 1973 (Appalachian State University).
- HALBACK, RICHARD, Program Director, Correctional Science
A.S., 1969 (Bernard Barauch, School of Business Administration); B.S., 1970, M.A., 1974 (John Jay College of Criminal Justice, New York).
- HALL, JAMES E., Department Head, Biology
B.S., 1966, M.A., 1968 (Appalachian State University); Ed.D., 1979 (Nova University).
- HANEY, MERIAM P., Advancement Studies
A.A., 1966 (Central Piedmont Community College); B.A., 1972 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Greensboro.
- HARDY, AUDREY, Financial Aid
A.A.S., 1974 (Fayetteville Technical Institute); A.A.S., 1980 (Central Piedmont Community College).
- HARMON, CLAYTON C., Performing Arts, Piano Tuning and
Repair
Thirty-five years professional experience; Charter member Piano Technicians Guild; Undergraduate studies Central Piedmont Community College
- HARRIS, GLORIA J., Library Services
B.A., 1974 (Johnson C. Smith University).
- HARTLEY, GAYLE MELTON, Language and Humanities
A.A., 1958 (Wingate Junior College); A.B., 1960, M.Ed., 1962 (University of North Carolina at Chapel Hill); Ph.D., 1971 (University of South Carolina).
- HASSETT, EARL, Business Administration
J.D., 1951 (DePaul University); M.A., 1960 (Rockford College). Certified Public Accountant.
- HAWTHORNE, A. CARY, JR., Business
B.S., 1951, M.B.A., 1955 (University of Maryland). Additional graduate work at Richmond Professional Institute and Virginia Polytechnic Institute.
- HAYES, MARILYN MOYER, Program Director, Dental Hygiene
B.S., 1969 (Ohio State University). Licensed Dental Hygienist in Ohio and North Carolina.
- HEATH, FRED, Executive Housekeeper
Johnson C. Smith University; University of North Carolina at Charlotte; United States Army Infantry School.
- HEEDICK, JANE ELLIOTT, Department Head,
Medical Office and Records
Diploma, 1943 (Presbyterian Hospital School of Nursing); A.B., 1970 (Limestone College); M.Ed., 1973 (University of North Carolina at Charlotte). Registered Nurse.
- HELLINGER, SOL, Director, Off-Campus Services
A.A., 1972 (Central Piedmont Community College).
- HELMS, IDA L., Advancement Studies (Drop-In Center)
A.A., 1969 (Central Piedmont Community College); B.A., 1971 (University of North Carolina at Charlotte). Additional graduate work at University of Colorado. M.Ed., 1977 (University of North Carolina at Charlotte).
- HENDERSON, EVERLENE A., Art, Commercial Art
B.F.A., 1966 (Ringling School of Art). M.A.T., 1977 (Winthrop College).

Faculty and Staff

- HENRY, WILLIAM J., Mathematics
B.S., 1939 (United States Military Academy); M.A.T., 1970 (North Carolina State University).
- HETHCOX, THOMAS GILBERT, Automotive Mechanics
Diploma, 1951 (Southern Vocational Institute); Diploma, 1953 (Class A School, U.S.N.). Additional study at Mitchell College.
- HILL, RENEE, Vice President, Learning Resources
B.S., 1952 (Fayetteville State University); M.A., 1968 (N.C. Central University); Ed.D., 1972 (Duke University).
- HINSDALE, S. BROOKE, Special Services Counselor
B.A., 1971 (University of North Carolina at Chapel Hill); M.A., 1972 (University of North Carolina at Chapel Hill). Additional graduate work at University of North Carolina at Chapel Hill and University of North Carolina at Greensboro.
- HINTON, LARRY W., Learning Disability Specialist
B.A., 1977 (University of South Carolina); M.Ed., 1981 (The Citadel).
- HOBBS, MAGARET WAGONER, Secretarial Curricula
B.S., 1961 (Appalachian State University); M.Ed., 1970 (University of North Carolina at Greensboro).
- HOELZEL, ROBERT GILMAN, Comptroller
A.B., 1950 (Harvard University). Graduate work at University of Michigan.
- HOLMES, BETTE B., Program Director, Dental Assisting
Certified Dental Assistant.
- HOLT, NANCY, Computer Science
A.A.S., 1972 (Central Piedmont Community College). Additional study at Pfeiffer College.
- HONEYCUTT, IRENE B., Acting Department Head,
Language and Humanities
B.A., 1963 (Bob Jones University); M.A., 1969 (East Tennessee State University). Additional graduate work at University of Colorado and Dominican College at San Rafael.
- HOUSTON, JAMES H., III, Manager, Taylor Hall
B.S., 1957 (Johnson C. Smith University). Additional studies at University of North Carolina at Charlotte and Springfield College.
- HOWELL, EDWARD N., Director, Roads and Grounds
B.S. 1976 (North Carolina State University). Additional study at Appalachian State University.
- HUDSON, BETTY MAYO, Advancement Studies
B.A., 1969 (University of North Carolina at Charlotte).
- HUDSON, JUDY THREATTLE, Language and Humanities
A.B., 1963 (Pfeiffer College); M.Ed., 1969 (University of North Carolina at Greensboro). Additional graduate work at the University of Georgia.
- HUNEYCUTT, JUDY, Interpreter, Special Services
N.C., State Level III, 1978 (Morganton, N.C.).
- HUNEYCUTT, JUDY, Interpreter, Special Services
N.C. State Level III, 1978 (Morganton, N.C.).
- HUNTER, DAVID LEE, Vice President, General Studies
Group
B.S., 1957 (Johnson C. Smith University); M.S., 1965 (Atlanta University). Additional graduate study at Rutgers University and North Carolina State University. Ed.D., 1979 (Nova University).
- HUNTER, WRIGHT, JR., Language and Humanities
A.B., 1953 (Johnson C. Smith University); M.Ed., 1970 (University of North Carolina at Charlotte). Additional graduate work at University of North Carolina at Charlotte, Appalachian State University, Atlanta University and Temple University.
- HUTCHINS, SONJA T., Secretarial Curricula
B.S.S.A., 1967 (University of North Carolina at Greensboro); M.A., 1968 (Appalachian State University). Additional graduate work at Appalachian State University and N.C. State University.
- IBANEZ, HUGO J., Language and Humanities
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1971 (University of North Carolina at Greensboro).
- JACKSON, WILLIAM L., Behavioral and Social Science
A.B., 1952 (University of Miami); M.S., 1962 (Utah State University). Additional graduate work at University of South Carolina and Florida State University.
- JANE, MAGALY, Language and Humanities
B.S., 1964 (University of Tampa); M.A., 1968 (Appalachian State University).
- JEFFERIES, LEWIS, Project Accounting Specialist
A.A., 1971 (Central Piedmont Community College).
- JENKINS, SALLIE C., Library
B.S., 1960, M.A., 1961 (East Carolina University).
- JOHNSON, DORA T., Department Head, Secretarial Curricula
B.S., 1957 (Agricultural and Technical State University); M.A., 1960 (Columbia University). Additional graduate work at University of North Carolina at Greensboro.
- JOHNSON, WILLIAM M., Air Conditioning, Heating and Refrigeration Technology
A.S., 1959 (Southern Technical Institute). Additional undergraduate work at University of Georgia, Auburn University and Sneade Junior College.
- JOHNSTON, CAMILLE N., Placement Officer
A.B., 1946 (Duke University).
- JONES, CATHY, Counselor
B.A., (Barber-Scotia College); M.E.D. (University of North Carolina at Charlotte).
- JONES, DEBRA W., Programmer/Analyst
B.S., 1977 (North Carolina Central University).
- JONES, JAMES B., JR., Mathematics
B.A., 1963 (Lenoir-Rhyne College); M.A., 1965 (University of South Carolina). Additional graduate work at Florida State University.
- JONES, JUDITH SHELTON, Data Entry Instructor
Diploma, 1969, (Bessemer State Technical College, Bessemer, Alabama). Additional undergraduate work at University of Alabama, Birmingham.
- JORDAN, CAROL W., Program Director, Women's
Career Center
B.A., 1976 (Shaw University); M.Ed., 1978; B.A., 1980 (University of North Carolina at Charlotte).
- JOYNER, NORMAN, Electrical and Electronics Engineering
Technology
Specialty Schools — U.S. Army Electronics School, RCA, and Westinghouse. Fifteen years electrical work experience.
- KASLER, BARBARA JOHNSON, Art, Fine Arts
B.A., 1958 (Queens College); M.Ed., 1968 (Wayne State University).
- KELLER, PAUL L., Student Employment Advisor
A.B., 1965 (Boston University); M.B.A., 1971 (University of Massachusetts at Amherst); A.A.S., 1978, A.A.S., 1979 (Central Piedmont Community College). Additional work at Naval War College, Newport, R.I.
- KENNEDY, GEORGE MANUEL, Art, Commercial Art
B.A., 1967 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Charlotte.
- KIBLER, WILLIAM ARTHUR, JR., Adult Education Supervisor
B.S., 1960 (North Carolina Agricultural and Technical State University). Additional study at Johnson C. Smith University.
- KIMBLE, JOHN W., Director Grants, Scholarships, and Loans (Business Office)
B.S., 1975 (University of Charleston).
- KING, ELIZABETH H., Program Director, Sales and Marketing
A.B., 1967 (Salem College).
- KING, SARA ANNE, Paralegal Program
A.B., 1968 (Pfeiffer College); J.D., 1972 (Stetson University).
- KINTZING, DEBORAH, Performing Arts, Drama
B.A., 1974 (University of Tennessee); M.F.A., 1977 (University of North Carolina at Greensboro).
- KIRKMAN, A. VICTOR, JR., Counselor
B.A., 1955 (Wake Forest University); M.A., 1964 (Appalachian State University). Ed.D., 1976 (Nova University).
- KISER, HELEN T., Practical Nursing
Diploma, 1953 (Mercy School of Nursing); B.A., 1973 (Limestone College). Registered Nurse. Additional graduate study at North Carolina State University.
- KISER, JESSIE PROPST, Division Head, Nursing Programs
Diploma, 1942 (Shelby Hospital School of Nursing); B.S.N.E., 1957 (Duke University). M.S.N., 1962 (University of North Carolina-Chapel Hill).
- KLEIN, DANA E., Facilitator, Matthews Area
Learning Center
B.A., 1981 (Edison College).
- KOLLER, JOHN W., Mechanical Engineering Technology
A.A., 1978 (Central Piedmont Community College).
- KRIEGER, MARVIN, Economics
B.A., 1968 (Lenoir-Rhyne College); M.A., 1969 (Wake Forest University). Additional study at Duke University, University of North Carolina at Charlotte and Wake Forest University.

- LAKE, BARBARA SUE, Advancement Studies
A.A., 1968 (Central Piedmont Community College); B.A., 1971 (University of North Carolina at Charlotte); A.G.E. 1982, (Central Piedmont Community College). Additional graduate work at North Texas State University; North Carolina State University. M.H.D.L., 1981 (University of North Carolina-Charlotte).
- LAMAL, PAULINE DOVE, Arts, Fine Arts
B.A., 1965 (Mary Baldwin College); M.F.A., 1969 (George Washington University).
- LANDERS, LINDA E., International Culture
B.S., 1965 (Georgia Southern College).
- LANIER, CONNIE C., Behavioral and Social Science
A.B., 1960, M.A., 1962 (Emory University). Licensed Psychological Examiner. Ed.D., 1981 (Nova University).
- LAUNT, JONATHAN T., Language and Humanities
B.A., 1967, M.A.T., 1969 (University of North Carolina at Chapel Hill).
- LAVIN, JANE BAKER, Dental Hygiene Program
Registered Dental Hygienist; B.S. in Dental Hygiene, 1970 (West Virginia University).
- LAWING, MARGARET SHARPE, Language and Humanities
B.A., 1957 (Elon College); M.A., 1968 (University of North Carolina at Greensboro). Additional graduate study at University of Northern Colorado and Western Carolina University.
- LEE, LILLIE M., Media Services
- LEININGER, JOHN M., Graphic Arts
B.S., 1978 (State University of New York at Oswego); M.Ed., 1981 (Clemson University).
- LEONARD, CRAIG, Horticulture
B.S., 1975 (North Carolina State University).
- LESSLIE, JAMES WYLIE, Architectural Technology
Bachelor Architecture, 1960 (Clemson University).
- LEWIS, R. LILLIAN, DICER Accounting Specialist
B.A., 1964 (Johnson C. Smith University).
- LEWIS, THEODORE H., Computer Science
Undergraduate work at Western Carolina University.
- LILES, M. B., JR., Biology
B.S., 1960 (Wake Forest University); M.A., 1969 (Appalachian State University).
- LOCKE, STANLEY E., Assistant Director
Media Services
B.A., 1978 (Johnson C. Smith University).
- LOCKEE, OTTO A., Vice President, Continuing Education
Group
B.S., 1950; M.Ed., 1951 (Texas Christian University). Registered Professional Engineer. Ed.D., 1979 (Nova University).
- LOCKLER, RAY W., Environmental Systems Program
A.A., 1975 (Central Piedmont Community College).
- LOSSE, AIMEE SCHULTZ, Mathematics
A.B., 1940 (University of Wisconsin); M.A., 1967 (Pittsburg State University). Additional graduate work at Pittsburg State University.
- LUCKADOO, SHIRLEY R., Secretarial Curricula
A.A., 1963 (Gardner-Webb College); B.A., 1965 (Furman University); M.A.T., 1971 (Winthrop College); Ed.D., 1980 (North Carolina State University).
- LUCKADOO, VAUGHN C., Program Director, Casework and Outreach
B.A., 1968 (Wake Forest University); M.Ed., 1972 (University of North Carolina). Additional graduate work at University of North Carolina. Certificate in counseling, State of North Carolina.
- LUNSFORD, CAROLYN, Special Services
Interpretation/Transliteration Certificate, 1981 (Charlotte, North Carolina).
- LUTHER, MARY R., Medical Office and Records
B.A., 1976 (University of North Carolina at Charlotte); Diploma, 1979 (Central Piedmont Community College).
- McALEXANDER, J. AARON, Physical Science
B.S., 1961 (Appalachian State University); M.A.T., 1965 (University of North Carolina at Chapel Hill); Ed.D., 1976 (Nova University).
- McCALL, DEAN L., Automotive Mechanics
Undergraduate work at Central Piedmont Community College and Lees McRae College.
- McCORD, SAMUEL W., Lead Interpreter,
Special Services
N.C., State Level III, 1982 (Charlotte, North Carolina).
- McDANIEL, ROGER D., Occupational Extension, Food Service
Attended Lenoir-Rhyne College, North Carolina State University and Gaston College.
- McDONALD, PEGGY P., Health and Physical Education
B.S., 1958 (Winthrop College). Additional work at University of South Carolina.
- McDUFFIE, JEAN STOVALL, Library Science
B.A., 1964 (Johnson C. Smith University); M.S.L.S., 1965 (Atlanta University).
- McGAHA, GEORGE D., Lab Instructor, Electrical/Electronics
Engineering Technology
A.A.S., 1981 (Central Piedmont Community College).
- McGRATH, RALPH L., Director, Cash Receipts
Diploma, 1960 (American Institute of Banking).
- McILWAIN, DORIS W., Media Production
B.A., 1971 (Meredith College); M.Ed., 1975 (University of North Carolina at Chapel Hill).
- McINTOSH, WILLIAM A., Vice President, Educational Planning
and Evaluation
A.B., 1960 (Elon College); M.S., 1964; Ed.D., 1969 (North Carolina State University).
- McKENZIE, SARAH W., Assistant Purchasing Agent
- McKIM, LEON B., Department Head, Public Service
B.A., 1949 (University of Florida); M.A., 1969 (Florida Atlantic University).
- McKINNON, JEANNE E., Mathematics
A.B., 1940 (Erskine College); M.Ed., 1953 (University of North Carolina at Chapel Hill); M.A., 1963 (University of Oregon); Ed.D., 1976 (Nova University). Additional graduate study at University of Wyoming and University of Chicago.
- McLAWHON, DOROTHY H., Health Careers Lab
Undergraduate studies at Central Piedmont Community College.
- McMULLIN, DENNIS G., Program Director, Commercial Art
Professional Diploma, 1963 (Maryland Institute College of Art). I.D.E.C.
- McMURRAY, Robert W., Director, Accounts and Records
Diploma, 1959 (Robert Morris Junior College).
- McPHETERS, EDITH, Accounting
B.S., 1946 (Furman University). Additional work at Duke University and the University of North Carolina at Chapel Hill. Certified Public Accountant.
- MADDOX, MARSHALL M., Behavioral and Social Science
A.A., 1959, B.A., 1964, M.Ed., 1969 (University of Florida). Additional graduate work at University of Florida.
- MAIORANO, JONA D., Human Services
B.A., 1979 (University of North Carolina at Charlotte).
- MAIORANO, SAL A., Architectural/Civil Technology
B.S.M.A.E., 1971 (North Carolina State University). Additional work at University of North Carolina at Charlotte. Registered Professional Engineer.
- MAPLES, WILLIAM M., Program Director, Environmental
Systems
A.A.S., 1974 (Central Piedmont Community College).
- MARTIN, EDWARD VAN, Counselor
B.A., 1959 (Johnson C. Smith University). Additional study at University of Minnesota and Virginia Commonwealth University.
- MATHIS, VIRGINIA B., Language and Humanities
B.A., 1936 (Winthrop College); M.A., 1942 (Duke University). Additional study at Columbia University, Florida State University and Harvard University.
- MATTILL, MARZELLE RENEE, Business Administration
Diploma, 1972, Electronics (North Carolina Training Center); A.A., 1976 (Central Piedmont Community College). Additional studies at Central Piedmont Community College.
- MAULDIN, PHILIP B., Department Head, Behavioral and
Social Science
A.B., 1960 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University); Ph.D., 1973 (University of Alabama).
- MAXWELL, DELORES M., Program Director, Level I Nursing
R.N., 1962 (Provident Hospital School of Nursing); B.S., 1974 (Queens College); M.S.N., 1976 (University of North Carolina at Chapel Hill).
- MAYHEW, JANICE F., Medical Office Assisting
R.N., 1960 (Presbyterian Hospital School of Nursing); B.S., 1961 (Queens College). Additional work at Queens College and University of North Carolina at Charlotte.
- MENSER, MANUEL MATTHEW, Program Director, Welding
Undergraduate work at North Carolina State University.
- MEYLE, VIRGINIA A., Food Preparation Program
Licensed by American Culinary Federation and Professional Chefs of the Carolinas.

Faculty and Staff

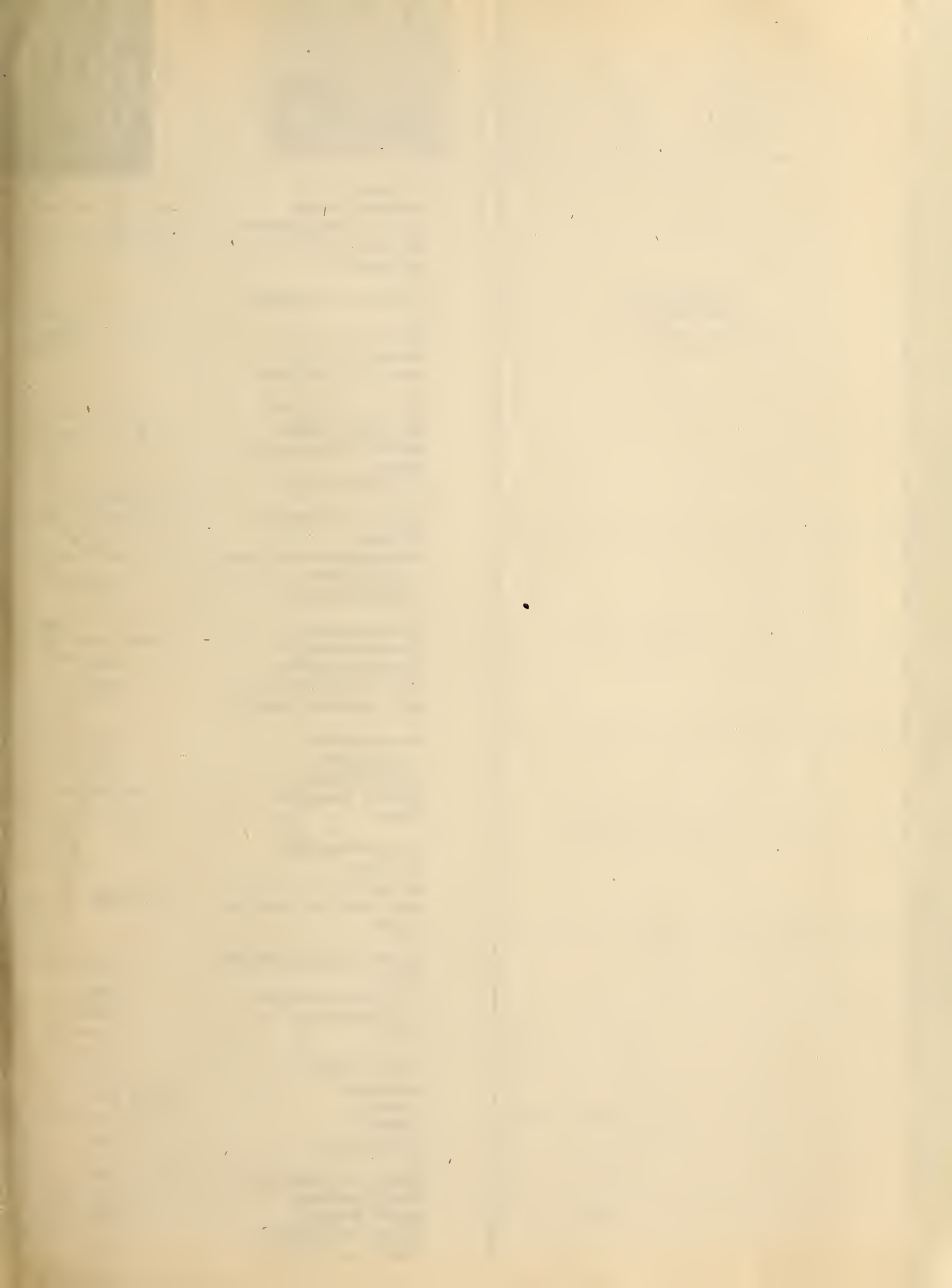
- MILLER, FRANK C., Environmental Systems
A.S., 1957 (Southern Technical Institution); B.S., 1968 (North Carolina State University).
- MOORE, JOHN D., Area Coordinator, Mint Hill/Matthews Learning Center
A.B., 1954 (University of North Carolina at Chapel Hill); M.Ed., 1964, Ed.D., 1973 (North Carolina State University).
- MOOSE, MARY C., Library Services
A.A., 1946 (Stephens College).
- MORETZ, H. LYNN, Director of Quality Circles & Productivity
B.S., 1961 (Appalachian State University); M.Ed., 1966 (University of Maryland); Ed.D., 1980 (Nova University).
- MORRIS, JUANITA OWEN, Associate Degree Nursing
Diploma, 1940 (Mercy Hospital of Nursing); Diploma, 1942 (Vanderbilt University Hospital Anesthesia School); B.S., 1949 (Queens College). Additional study at University of North Carolina Registered Nurse.
- MORRIS, THOMAS, R., Program Director, Respiratory Therapy
B.S., 1966 (University of Alabama); Certificate in Respiratory Therapy, 1968 (Duke University Medical Center).
- MORRISON, MILDRED W., Assistant Director, Library Services
A.B., 1938 (Hollins College); B.L.S., 1939 (Pratt Institute); M.A., 1970 (Appalachian State University). Additional work at University of North Carolina and Queens College.
- MORROW, JOHN DEAL, Department Head, Physical Science
B.S., 1957 (East Carolina University); M.S., 1967 (University of Tennessee). Additional graduate work at North Carolina State University, Appalachian State University and Oak Ridge Institute of Nuclear Studies.
- MORROW, ROBERT A., JR., Department Head, Mathematics
B.S., 1959, M.S., 1961 (North Carolina State University).
- MULLIS, JACK R., Director, Construction and Contractual Service
- MULLIS, JAMES S., Advancement Studies
A.A., 1979 (Central Piedmont Community College).
- MUMFORD, GLORIA M., Physical Science
B.S., 1953 (Bennett College); M.S., 1964 (North Carolina Central University). Additional graduate work at Michigan State University.
- MYERS, MICHAEL G., Director of Public Information and Special Projects
B.S., 1953 (Davidson College); Additional study at Harvard University Institute for the Management of Lifelong Education.
- NEEDY, JOHN A., JR., Division Head, Health and Physical Education
B.S., 1940 (Ohio Northern University); M.A., 1947 (Columbia University). Additional graduate work at Indiana University.
- NELSON, CLARA E., Accounting
B.S., 1962, M.A., 1965 (Appalachian State University).
- NELSON, JOHN A., Program Director, Automotive Mechanics
B.S., 1964 (Stout State College).
- NELSON, MARGARET R., Nursing
B.S.N., 1973 (East Carolina University); M.S.N., 1979 (Emory University).
- NEVILLE, SUSAN M., Facilitator, North Area Learning Center
B.S., 1970 (State University of New York at Oneonta); graduate work at S.U.N.Y. at Binghamton and Cortland.
- NEWLANDER, CHANDLER, Lab Instructor
B.S., 1967 (Winthrop College); A.A.S. (Central Piedmont Community College). Additional study at University of North Carolina at Charlotte.
- NICHOLS, ANDY O., Program Director, Industrial Safety, Health, Security and Investigations
B.A., 1974 (Winthrop College); Licensed Audio Stress Analyst and Licensed Private Detective.
- NIELSEN, BJARNE T., International Culture
B.S., 1970, (Aalborg Seminarium, Denmark); B.A., 1974 (Ambassador College, England).
- O'DELL, ROBERT STANLEY, Mechanical Engineering Technology
B.S., 1951, M.A., 1959 (East Tennessee State University). Additional work at University of North Carolina at Chapel Hill and North Carolina State University.
- ODER, HENRY ALLEN, Program Director, Paralegal
A.B., 1947, LLB, 1956 (Washington and Lee University).
- O'NEILL, WALTER C., Program Director, Food Preparation
Diploma, 1941 (Cooks and Bakers School). Certified Executive Chef.
- OPLINGER, M. PHOEBE, Director, Library Services
A.B., 1946 (Maryville College); M.S.L.S., 1959 (Drexel University).
- OTTERBOURG, EDNA M., Biology
B.S., 1953, (University of North Carolina at Greensboro); M.A.T., 1968 (University of North Carolina at Chapel Hill).
- PASCHAL, MARY LOU, Performing Arts, Music
B.M., 1957 (Oberlin Conservatory of Music); M.M., 1959 (University of Mississippi). Additional study at Harvard University.
- PENNINGTON, ARIS T., Director, Older Adult Program
B.S., 1972 (Tuskegee Institute).
- PERKINS, WILLIAM S., Media Production
B.A., 1972, M.Ed., 1974 (University of Houston).
- PERRY, TANGEE B., Assistant Director, Off-Campus Registration.
- PERSON, LELAND, Telecourse Center
B.A., 1977; M.Ed., 1981 (North Carolina Central University).
- PETTY, NORMAN HOLMES, Director, Rural Renaissance
B.A., 1962 (Wheaton College); M.B.A., 1970 (Georgia State University). Additional graduate work at University of North Carolina at Chapel Hill.
- PITTS, CAROLYN, Associate Director, Student Financial Aid
B.S., 1966 (Livingstone College); M.Ed., 1976 (University of North Carolina at Charlotte).
- POLK, JAMES G., Language and Humanities
A.B., 1950 (Johnson C. Smith University); M.A., 1962 (New York University).
- POOLE, KAREN, Interpreter, Special Services
Comprehensive Skills Certificate, 1981 (Charlotte, North Carolina).
- PORTER, LINDA K., Program Director, Medical Record Technology
A.S., 1970 (Lees-McRae College); B.S., 1972 (Bowman Gray College). Registered Records Administrator, 1972.
- PRIVETTE, ERNEST DEEECE, Secretarial Curricula
B.S., 1949 (East Tennessee State University); M.A., 1952 (Columbia University). Additional work at Appalachian State University, North Carolina State University, and University of North Carolina at Chapel Hill.
- RANDALL, ANNETTE M., Language and Humanities
A.B., 1967 (University of North Carolina at Chapel Hill); M.A., 1968, Ed.S., 1977 (Appalachian State University); Ph. D., 1982 (University of Texas at Austin).
- RANDALL, DAVID M., Lab Instructor
A.A.S., 1981 (Central Piedmont Community College).
- READ, DANIEL EDWIN, JR., Biology
B.S., 1961 (University of Florida); M.A., 1964 (Duke University). Additional study at University of North Carolina at Greensboro and University of North Carolina at Charlotte.
- REID, ANN C., Secretarial Curricula
B.S., 1959 (Appalachian State University); M.A.T., 1974 (Winthrop College).
- REID, RUFUS EUGENE, JR., Advancement Studies
B.S., 1958, M.Ed., 1965 (Appalachian State University).
- REID, WILEY G., Programmer/Analyst
Attended Duke University and Central Piedmont Community College. Certificate in Data Processing, 1972.
- REYNOLDS, BRADFORD J., Division Head, Human Services
A.B., 1962 (Elon College); M.Ed., 1967 (University of North Carolina at Greensboro); Ed.D., 1977 (Nova University).
- RHODEN, DAVID A., Operations Coordinator, Testing Center
A.A., 1972 (Central Piedmont Community College); B.A., 1975 (University of North Carolina at Charlotte).
- RICHARD, RAYMOND G., Language and Humanities
B.A., 1953 (University Saint-Louis, Edmundston, NB Canada); M.A., 1963 (Universite' Laval, Quebec, PQ Canada). Additional work at University of London and University of South Carolina.
- RICKETSON, CYNTHIA L., Language and Humanities
B.S., 1964; M.A., 1966 (University of Tennessee).
- ROBERTS, FLORA EMILY, Accounting
A.A.S., 1975 (Central Piedmont Community College).
- ROBERTSON, J. C., Manager, Plant Operations and Purchasing
B.S., 1962 (University of Maryland). Additional work at Washington University and Industrial College of the Armed Forces.

- ROBINSON, LOUISE PARSON, Counselor
B.S., 1956, M.S., 1963 (Oklahoma State University).
- ROGERS, JAMES COOK, Behavioral and Social Science
B.A., 1966, M.A., 1968 (Wake Forest University). Additional graduate work at University of California at Berkeley and University of Kentucky.
- ROJO, LORETTA BURCH, Accounting
B.S., 1965 (Winthrop College); M.Ed., 1969 (University of North Carolina at Greensboro).
- ROMINGER, MIKE, Media Production
B.A., 1976 (Appalachian State University).
- ROSS, BOBBIE G., Area Coordinator, North Area Learning Center
B.S., 1958 (Appalachian State University); M.S., 1978 (Winthrop College). Additional graduate work at University of North Carolina at Greensboro and Charlotte.
- ROSS, ELIZABETH SPROUL, Arts, Fine Arts
B.A., 1959 (Queens College); M.F.A., 1965 (University of North Carolina at Greensboro).
- ROUZER, NANCY C., Behavioral and Social Science
B.A., 1942 (Duke University); M.A.T., 1964 (Winthrop College). Additional work at Winthrop College.
- ROWELL, ANN PARKIN, Accounting
B.S., 1973 (University of North Carolina at Greensboro). Additional graduate studies at Winthrop College. Certified Public Accountant.
- RYAN, VIRGINIA, Counselor
B.S., 1958, M.S., 1964 (University of Southern Mississippi). Additional work at University of Southern Mississippi.
- SAHLBERG, GREG, Special Services Counselor
B.S., 1976 (University of Wisconsin at Stout); M.A., 1977 (New York University).
- SAIN, JULIA, Lead Tutor
B.A., 1977 (Lenoir-Rhyne College).
- ST. CLAIR, DONNA, Interpreter, Special Services
A.A., 1961 (George Washington University); B.A., 1975 (University of North Carolina at Charlotte); North Carolina State Level II, 1982 (Charlotte, North Carolina).
- SAMPSON, BOB G., Language and Humanities
B.A., 1965 (Western Kentucky University); M.A., 1968 (Ball State University); Ed.S., 1973 (Appalachian State University).
- SASSER, JAMES HOWARD, Behavioral and Social Sciences
A.B., 1959 (High Point College); M.A., 1960, Ed.S., 1968 (George Peabody College for Teachers); Ed.D., 1976 (Nova University).
- SCHOETTLER, SUSAN B., Business Administration
B.A., 1970 (Eastern Michigan University); J.D., 1973 (Detroit College of Law).
- SHAFFER, JUDITH U., Library Services
B.A., 1968 (University of Delaware).
- SHAMSID-DEEN, DEVENURE NIVENS, Language and Humanities
A.B., 1968 (Johnson C. Smith University). Additional work at University of North Carolina at Charlotte.
- SHAPIRO, ADELE, Mathematics
A.B., 1956 (Brooklyn College); M.S., 1958 (Yeshiva University Graduate School of Education). Additional graduate at Hofstra University.
- SHAW, EDWARD H., Program Director, Real Estate
B.S., 1943, M.S., 1948 (Georgia Institute of Technology).
- SHEARIN, EDWARD T., JR., Library Services
A.A., 1967 (Chowan College); B.A., 1969 (North Carolina Wesleyan College); M.L.S., 1974 (East Carolina University).
- SHEPHERD, R. DONALD, Counselor
B.S., 1964 (University of Tennessee); M.S., 1970 (Florida State University); Ed.D., 1976 (Nova University).
- SHIRKEY, KATHRYN T., Program Director, Child Care Training Center
B.A., 1952 (Albion College).
- SIMMONS, NOAH GAYLE, Executive Vice President
B.S., 1948 (Southeast Missouri State College); M.A., 1951, Ed.D., 1960 (Washington University). Post-doctoral study at Michigan State University.
- SMALL, BEN F., Director, Inventory Control
- SMITH, BRUCE HENRY, Vice President, Administrative Services
B.A., 1957 (Lenoir-Rhyne College); M.B.A., 1964 (Auburn University). Additional work at University of North Carolina at Chapel Hill. Certificate in Municipal Administration. Ed.D., 1980 (Nova University).
- SOOS, GEORGE, Program Director, Mechanical Engineering Technology
B.S.E., 1944 (Hungarian Royal Technical Military Academy). Additional work at North Carolina State University. Registered Professional Engineer.
- SOVACOO, MICHAEL, Media Production
A.G.E., 1975 (Centrl Piedmont Community College).
- SPEAS, CURTIS P., Media Services
A.A., 1979 (Valencia Community College).
- SQUARES, CARL EDWIN, Vice President, Careers Group
B.A., 1959; M.A., 1962 (Arizona State University). Additional graduate work at University of Missouri. Ed.D., University of Missouri, 1976.
- STANBACK, ERNEST H., Director, Adult Education and Contractual Programs
B.S., 1945 (Agricultural and Technical State University); M.Ed., 1956 (Cornell University). Additional work at University of North Carolina at Chapel Hill, Duke University, Morgan College and Hampton Institute.
- STARNES, CHARLES C., Performing Arts, Music
B.S., 1956 (East Carolina University); M.Ed., 1967 (University of North Carolina at Chapel Hill). Additional work at Florida State University and Oberlin College Conservatory.
- STEARNS, LARRY M., Biology
B.S., 1962 (Maryville College); M.S., 1965 (University of Tennessee); Ph.D., 1970 (Clemson University).
- STEARNS, MARTHA, Reading
B.S.E., 1961 (Maryville College); M.E.D., 1969 (Clemson University).
- STILLWELL, GORDON STEVE, Automotive Mechanics
Diploma, 1968 (Central Piedmont Community College); A.G.E., 1971 and Diploma, 1979 (Central Piedmont Community College).
- STINSON, ANNETTE, Facilitator, Course Management System
- STRICKLAND, SAM J., Director, Maintenance
A.A., 1972 (Central Piedmont Community College). Additional study at Famous Artist School. B.T., 1977 (Appalachian State University).
- SUGGS, BEVERLY S., Language and Humanities
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1975 (University of North Carolina at Charlotte). Additional study at University of North Carolina at Chapel Hill. Certified for secondary teaching.
- SUMEREL, JERRY J., Interpreter, Special Services
Comprehensive Skills Certificate, 1977 (Columbia, South Carolina).
- SUMMER, JOSEPH T., Program Director, Horticulture
B.S., 1969 (Clemson University).
- SUMMERS, JACK H., Assistant Director, Resource Development
B.A., 1976, M.A., 1979 (Western Carolina University).
- SURPHILIS, ROSS C., Director, Student Activities
B.S., 1959 (St. Louis University); A.M., 1962 (University of Missouri). Additional work at University of Illinois.
- SUTCLIFFE, GEORGE H., Business Administration
B.S., 1960 (Davidson College); M.A., 1961 (East Carolina University); Ed.D., 1980 (Nova University). Additional work at North Carolina State University.
- SUTTON, ROBERT T., Media Production
B.A., 1977 (University of North Carolina at Chapel Hill).
- SWANDER, MARTHA JO, Computer Science
B.S., 1971; M.S., 1976 (Radford University).
- SYFERT, DAVID VERNON, Behavioral and Social Science
B.A., 1964 (Cornell College); M.A., 1966 (Michigan State University). Additional graduate work at Michigan State University.
- TALBERT, EARL DONALD, Computer Science
A.B., 1951 (Catawba College). Graduate work at North Carolina State University and Appalachian State University. Professional Certificate in Data Processing.
- TATE, DONALD K., Air Conditioning, Heating and Refrigeration Technology
B.A., 1969 (Wake Forest), Master Industrial Arts, 1980 (Clemson University). Additional graduate work University of North Carolina at Charlotte.
- TAYLOR, H. LEWIS, Physics
Undergraduate Studies at University of North Carolina at Charlotte.

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- TEMPLE, WILLIAM S., Advancement Studies
A.B., 1956 (Lenoir-Rhyne College); M.Ed., 1962 (University of North Carolina at Chapel Hill). Additional graduate work at Duke University.
- TERRY, BEVERLY E., Accounting
B.A., 1969, M.A., 1971 (University of Missouri at St. Louis). Additional graduate work at Southern Illinois University. Certified Public Accountant.
- TIMBLIN, GEORGE A., Division Head, Technology
B.S.E.E., 1962 (Duke University); M.Ed., 1962 (University of North Carolina at Chapel Hill). Additional graduate work at Duke University.
- TODD, CARL A., JR., Diesel Mechanics
Diploma, 1981, Automotive Mechanics; Diploma, 1981, Diesel Vehicle Mechanics, (Central Piedmont Community College).
- TONG, DIEP N., Junior Accountant
A.A., 1976 (Rochester Community College); B.S., 1978 (Winona State University).
- TREADWELL, N. SCOT, Program Director, Electric/Electronic Engineering Technology
A.A.S., 1972 (Central Piedmont Community College); B.E.T., 1974 (University of North Carolina at Charlotte). Certified Engineering Technician.
- TREVOR, FLORENCE G., Reading
B.A., 1947 (University of New York City); M.A., 1963 (University of Tennessee). Additional graduate work at University of South Carolina, University of Indiana, and Taylor University.
- TRIPP, JOHN DOUGLAS, SR., Director, Veterans Affairs and Testing Center Services
B.S., 1947 (North Carolina State University); M.R.E., 1951 (Southwestern Baptist Theological Seminary). Additional graduate work at Appalachian State University, North Carolina State University, University of Virginia, and Auburn University.
- TURNER, TERILYN C., Department Head, Reading
B.S., 1968, M.A., 1969 (Ohio State University); Ph.D., 1977 (University of North Carolina at Chapel Hill).
- VANCE, THOMAS M., Performing Arts, Drama
B.S., 1960, M.A., 1962 (Appalachian State University). Additional graduate work at University of North Carolina at Chapel Hill and University of Georgia.
- VARNELL, HILDA, Advancement Studies
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- VULGAN, AMBROSE R., Mathematics
B.S., 1949 (Hampden-Sydney College); M.A., 1960 (Louisiana State University). Additional work at University of Richmond.
- WADE, JOELLEN, Media Services
Diploma, 1953 (Bradford Junior College); B.A., 1955 (University of North Carolina at Chapel Hill).
- WAGNER, CARL C., Architectural and Civil Engineering Technology
A.A.S., 1976 (Central Piedmont Community College); B.E.T., 1979 (University of North Carolina at Charlotte).
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A.A.S., 1967 (Central Piedmont Community College).
- WALLACE, ROBERT G., Welding
Diploma, 1963 (Central Piedmont Community College). Additional undergraduate work at North Carolina State University.
- WALTERS, RONALD KEITH, Art, Commercial Art
B.F.A., 1956 (Maryland Institute of Art); M.Ed., 1973 (University of North Carolina at Charlotte).
- WARD, RICHARD C., Economics
B.S., 1939 (Ohio University); M.A., 1966 (St. Mary's University, Texas).
- WARREN, GEORGE C., III, Behavioral and Social Science
A.B., 1965 (Birmingham Southern College); M.A., 1970 (University of Alabama).
- WATSON, BETTY L., Director, Counseling Services
B.A., 1952 (University of Denver); M.A., 1956 (Columbia University, New York). Additional work at University of South Carolina, University of LaVerne, University of North Carolina at Charlotte, Central Piedmont Community College.
- WATSON, PATRICIA ANNE, Child Care Training Center
Undergraduate study at Winthrop College.
- WAY, MARY A., Language and Humanities
B.A., 1960 (Queens College); M.A.T., 1965 (University of North Carolina at Chapel Hill). Additional graduate work at University of North Carolina, Winthrop College, Oxford University (England) and University of Illinois.
- WEBB, B.G. "BOB", Director, Purchasing
Kings Business College
- WEINGLASS, MARK C., Electronic Engineering Technology
A.A., 1969 (RCA Institute); B.E.T., 1980 (University of North Carolina at Charlotte).
- WEST, CHARLOTTE HAMOR, Secretarial Curricula
B.A., 1946 (University of North Carolina at Chapel Hill). Additional study at Carolina Business College, Central Piedmont Community College, and Appalachian State University.
- WHITLEY, JAMES A., Respiratory Therapy
A.A.S., 1975 (Central Piedmont Community College). Certified Respiratory Therapy Technician. Registered Respiratory Therapist.
- WHITLEY, RALPH W., Behavioral and Social Science
A.B., 1965 (University of North Carolina at Chapel Hill); M.A., 1968 (Appalachian State University).
- WHITMAN, WILLIAM CHARLES, Division Head, Industry
B.Ed., 1956 (Keene State College); M.Ed., 1963 (St. Michael's College).
- WIDENHOUSE, JAMES WAYNE, Program Director, Machinist
Diploma, 1972 (Central Piedmont Community College).
- WIGGINS, W. WEBB, Performing Arts, Music
B.Mus., 1967 (Stetson University); M.Mus., 1968 (Eastman School of Music). Additional study Oberlin College and Sweelinck Conservatorium, Amsterdam.
- WILLIAMS, ARTHUR LEE, Auto Body Repair
Diploma, 1972 (Central Piedmont Community College). Additional studies at Central Piedmont Community College.
- WILLIAMS, BETTY GAILE, Counselor
B.A., 1969 (University of North Carolina at Chapel Hill); M.Ed., 1977 (University of North Carolina at Charlotte).
- WILLIAMS, DORIS A., Mechanical Drafting Lab Instructor
A.A.S.-Mech. Eng. Tech., 1979 (Central Piedmont Community College). Additional study at Winthrop College.
- WILLIAMS, RONALD D., Computer Science
B.A., 1971 (University of North Carolina at Chapel Hill); M.A., 1977 (University of Northern Colorado).
- WILSON, CYNTHIA, Coordinator, Instructional Options Unlimited Program
B.A., 1975; M.Ed., 1978 (University of North Carolina at Charlotte).
- WILSON, MARJORIE, Reading
A.B., 1972; M.S., 1973 (State University College, Fredonia, New York).
- WILSON, WILLIAM RAY, Mathematics
B.S., 1959, M.Ed., 1965 (Georgia Southern College). Additional graduate work at Auburn University and North Carolina State University.
- WISDOM, STAN L., Behavioral and Social Science
B.A., 1970 (University of North Carolina at Charlotte); M.A., 1977 (East Carolina University). Additional graduate work at North Carolina State University. Registered Psychologist.
- WOOD, SANDRA C., Program Director, Child Development and Child Care Aide
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